

Bulletin 2540-13



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# Communications Equipment Operators

(O\*NET 43-2011.00, 43-2021.01, 43-2021.02, 43-2099.99)

## Significant Points

- Switchboard operators constitute 3 out of 4 of these workers.
- Workers train on the job.
- Employment is expected to decline due to new labor-saving communications technologies and consolidation of jobs.

## Nature of the Work

Most communications equipment operators work as *switchboard operators* for a wide variety of businesses, such as hospitals, hotels, and personnel-supply services. Switchboard operators operate private branch exchange (PBX) switchboards to relay incoming, outgoing, and interoffice calls, usually for a single organization. They also may handle other clerical duties, such as supplying information, taking messages, and announcing visitors. Technological improvements have automated many of the tasks handled by switchboard operators. New systems automatically connect outside calls to the correct destination, and voice mail systems take messages without the assistance of an operator.

Some communications equipment operators work as *telephone operators*, assisting customers in making telephone calls. Although most calls are connected automatically, callers sometimes require the assistance of an operator. *Central office operators* help customers complete local and long-distance calls. *Directory assistance operators* provide customers with information such as phone numbers or area codes.

When callers dial "0," they usually reach a central office operator, also known as a *local, long distance, or call completion operator*. Most of these operators work for telephone companies, and many of their responsibilities have been automated. For example, callers can make international, collect, and credit card calls without the assistance of a central office operator. Other tasks previously handled by these operators, such as billing calls to third parties or monitoring the cost of a call, also have been automated.

Callers still need a central office operator for a limited number of tasks. These include placing person-to-person calls or interrupting busy lines if an emergency warrants the disruption. When natural disasters occur, such as storms or earthquakes, central office operators provide callers with emergency phone contacts. They also assist callers having difficulty with automated phone systems. An operator monitoring an automated system for placing collect calls, for example, may intervene if a caller needs assistance with the system.

Directory assistance operators provide callers with information such as telephone numbers or area codes. Most directory assistance operators work for telephone companies; increasingly, they also work for companies that provide business services. Automated systems now handle many of the responsibilities once performed by directory assistance operators. The systems prompt callers for a listing, and may even connect the call after providing the phone number. However, directory assistance operators monitor many of the calls received by automated systems. The operators listen to recordings of the customer's request, and then key information into electronic directories to access the correct phone numbers. Directory assistance operators also provide personal assistance to customers having difficulty using the automated system.



*Switchboard operators constitute three-fourths of communications equipment operators.*

Other communications equipment operators include workers who operate telegraphic typewriter, telegraph key, facsimile machine, and related equipment to transmit and receive signals and messages. They prepare messages according to prescribed formats, and verify and correct errors in messages. As part of their job, they also may adjust equipment for proper operation.

## Working Conditions

Most communications equipment operators work in pleasant, well-lit surroundings. Because telephone operators spend much time seated at keyboards and video monitors, employers often provide workstations designed to decrease glare and other physical discomforts. Such improvements reduce the incidence of eyestrain, back discomfort, and injury due to repetitive motion.

Switchboard operators generally work the same hours as other clerical employees at their company. In most organizations, full-time operators work regular business hours over a 5-day workweek. Work schedules are more irregular in hotels, hospitals, and other organizations that require round-the-clock operator services. In these companies, switchboard operators may work in the evenings and on holidays and weekends.

Central office and directory assistance operators must be accessible to customers 24 hours a day and, therefore, work a variety of shifts. Some operators work split shifts; that is, they are on duty during peak calling periods in the late morning and early evening and off duty during the intervening hours. Telephone companies

normally assign shifts by seniority, allowing the most experienced operators first choice of schedules. As a result, entry-level operators may have less desirable schedules, including late evening, split-shift, and weekend work. Telephone company operators may work overtime during emergencies.

Approximately 1 in 5 communications equipment operators works part time. Because of the irregular nature of telephone operator schedules, many employers seek part-time workers for those shifts that are difficult to fill.

An operator's work may be quite repetitive and the pace hectic during peak calling periods. To maintain operator efficiency, supervisors at telephone companies often monitor operator performance, including the amount of time spent on each call. The rapid pace of the job and frequent monitoring may cause stress. To reduce job-related stress, some workplaces attempt to create a more stimulating and less rigid work environment.

## Employment

Communications equipment operators held about 339,000 jobs in 2000. About 3 out of 4 worked as switchboard operators. Employment was distributed as follows:

Switchboard operators .....	259,000
Telephone operators .....	54,000
All other communications equipment operators .....	26,000

Most switchboard operators worked for services establishments, such as personnel-supply services, hospitals, and hotels and motels.

## Training, Other Qualifications, and Advancement

Communications equipment operators receive their training on the job. At large telephone companies, entry-level central office and directory assistance operators may receive both classroom and on-the-job instruction that can last several weeks. At small telephone companies, operators usually receive shorter, less formal training. These operators may be paired with experienced personnel who provide hands-on instruction. Switchboard operators also may receive short-term, informal training, sometimes provided by the manufacturer of their switchboard equipment.

New employees train in equipment operation and procedures designed to maximize efficiency. They are familiarized with company policies, including the expected level of customer service. Instructors monitor both the time and quality of trainees' responses to customer requests. Supervisors may continue to closely monitor new employees after their initial training session is complete.

Employers generally require a high school diploma for operator positions. Applicants should have strong reading, spelling, and numerical skills; clear speech; and good hearing. Computer literacy and typing skills also are important, and familiarity with a foreign language is helpful because of the increasing diversity of the population. Most companies emphasize customer service skills. They seek operators who will remain courteous to customers while working at a fast pace.

After 1 or 2 years on the job, communications equipment operators may advance to other positions within a company. Many enter clerical occupations in which their operator experience is valuable, such as customer service representatives, dispatchers, and receptionists. (See the *Handbook* statements on customer service representatives, dispatchers, and receptionists and information clerks.) Operators with a more technical background may advance into positions installing and repairing equipment. Promotion to supervisory positions also is possible.

## Job Outlook

Employment of communications equipment operators is projected to decline through 2010, largely due to new laborsaving communi-

cations technologies and to consolidation of telephone operator jobs into fewer locations, often staffed by personnel-supply services firms. Virtually all job openings will result from the need to replace communications equipment operators who transfer to other occupations or leave the labor force.

Developments in communications technologies, specifically the ease and accessibility of voice recognition systems, will continue to have a significant impact on the demand for communications equipment operators. The decline in employment will be sharpest among directory assistance operators; smaller decreases will occur for switchboard operators. Voice recognition technology allows automated phone systems to recognize human speech. Callers speak directly to the system, which interprets the speech and then connects the call. Because voice recognition systems do not require callers to input data on a telephone keypad, they are easier to use than touch-tone systems. The systems also can understand increasingly sophisticated vocabulary and grammatical structures; however, many companies will continue to employ operators so that those callers having problems can access a "live" employee, if desired.

Electronic communications through the Internet or e-mail, for example, provides alternatives to telephone communications and requires no operators. Internet directory assistance services are reducing the need for directory assistance operators. Local phone companies currently have the most reliable phone directory data; however, Internet services provide information such as addresses and maps, in addition to phone numbers. As telephones and computers converge, the convenience of Internet directory assistance is expected to attract many customers, reducing the need for telephone operators to provide this service.

Consolidations among telephone companies also will reduce the need for operators. As communications technologies improve and long-distance prices fall, telephone companies will contract out and consolidate telephone operator jobs. Operators will be employed at fewer locations and will serve larger customer populations.

## Earnings

Median hourly earnings of switchboard operators, including answering service, were \$9.71 in 2000. The middle 50 percent earned between \$8.02 and \$11.71. The lowest 10 percent earned less than \$6.87, and the highest 10 percent earned more than \$13.76. Median hourly earnings in the industries employing the largest numbers of switchboard operators in 2000 are shown below:

Offices and clinics of medical doctors .....	\$9.74
Hospitals .....	9.54
Hotels and motels .....	9.16
Personnel supply services .....	9.02
Miscellaneous business services .....	8.66

Median hourly earnings of telephone operators in 2000 were \$13.46. The middle 50 percent earned between \$9.40 and \$16.76. The lowest 10 percent earned less than \$7.23, and the highest 10 percent earned more than \$19.57.

Some telephone operators working at telephone companies are members of the Communications Workers of America (CWA) or the International Brotherhood of Electrical Workers (IBEW). For these operators, union contracts govern wage rates, wage increases, and the time required to advance from one pay step to the next. (It normally takes 4 years to rise from the lowest paying, nonsupervisory operator position to the highest.) Contracts also call for extra pay for work beyond the normal 6-1/2 to 7-1/2 hours a day or 5 days a week, for Sunday and holiday work, and for a pay differential for nightwork and split shifts. Many contracts provide for a 1-week vacation after 6 months of service; 2 weeks after 1 year; 3 weeks after 7 years; 4 weeks after 15 years; and 5 weeks after 25 years. Holidays range from 9 to 11 days a year.

## Related Occupations

Other workers who provide information to the general public include dispatchers; hotel, motel, and resort desk clerks; information and record clerks; and reservation and transportation ticket agents and travel clerks.

## Sources of Additional Information

For more details about employment opportunities, contact a telephone company, temporary-help agency, or write to:

- Communications Workers of America, 501 3rd St. NW., Washington, DC 20001. Internet: <http://www.cwa-union.org>
- International Brotherhood of Electrical Workers, Telecommunications Department, 1125 15th St. NW., Room 807, Washington, DC 20005.

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# Computer Operators

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(O\*NET 43-9011.00)

## Significant Points

- Employment is expected to decline sharply due to advances in technology.
- Opportunities will be best for operators who have formal computer-related education, are familiar with a variety of operating systems, and keep up-to-date with the latest technology.

## Nature of the Work

Computer operators oversee the operation of computer hardware systems, ensuring that these machines are used as efficiently as possible. They may work with mainframes, minicomputers, or networks of personal computers. Computer operators must anticipate problems and take preventive action, as well as solve problems that occur during operations.

The duties of computer operators vary with the size of the installation, the type of equipment used, and the policies of the employer. Generally, operators control the console of either a mainframe digital computer or a group of minicomputers. Working from operating instructions prepared by programmers, users, or operations managers, computer operators set controls on the computer and on peripheral devices required to run a particular job.

Computer operators load equipment with tapes, disks, and paper, as needed. While the computer is running—which may be 24 hours a day for large computers—computer operators monitor the control console and respond to operating and computer messages. Messages indicate the individual specifications of each job being run. If an error message occurs, operators must locate and solve the problem or terminate the program. Operators also maintain logbooks or operating records, listing each job that is run and events, such as machine malfunctions, that occur during their shift. In addition, computer operators may help programmers and systems analysts test and debug new programs. (See the statements on computer programmers; and systems analysts, computer scientists, and database administrators elsewhere in the *Handbook*.)

As the trend toward networking computers accelerates, a growing number of computer operators are working on personal computers (PCs) and minicomputers. In many offices, factories, and other work settings, PCs and minicomputers are connected in networks, often referred to as local area networks (LANs) or multi-user systems. Whereas users in the area operate some of these computers, many require the services of full-time operators. The tasks performed on PCs and minicomputers are very similar to those performed on large computers.



*Computer operators usually receive on-the-job training.*

As organizations continue to look for opportunities to increase productivity, automation is expanding into additional areas of computer operations. Sophisticated software, coupled with robotics, enables a computer to perform many routine tasks formerly done by computer operators. Scheduling, loading and downloading programs, mounting tapes, rerouting messages, and running periodic reports can be done without the intervention of an operator. Consequently, these improvements will change what computer operators do in the future. As technology advances, the responsibilities of many computer operators are shifting to areas such as network operations, user support, and database maintenance.

## Working Conditions

Computer operators generally work in well-lighted, well-ventilated, comfortable rooms. Because many organizations use their computers 24 hours a day, 7 days a week, computer operators may be required to work evening or night shifts and weekends. Shift assignments usually are made based on seniority. However, increasingly automated operations will lessen the need for shift work, because many companies let the computer take over operations during less desirable working hours. In addition, advances in telecommuting technologies—such as faxes, modems, and e-mail—and data center automation, such as automated tape libraries, enable some operators to monitor batch processes, check systems performance, and record problems for the next shift.

Because computer operators generally spend a lot of time in front of a computer monitor, as well as performing repetitive tasks such as loading and unloading printers, they may be susceptible to eye-strain, back discomfort, and hand and wrist problems.

## Employment

Computer operators held about 194,000 jobs in 2000. Most jobs are found in organizations such as wholesale trade establishments, manufacturing companies, business services firms, financial institutions, and government agencies that have data-processing needs requiring large computer installations. A large number of computer operators are employed by service firms in the computer and data-processing services industry, as more companies contract out the operation of their data-processing centers.

## Training, Other Qualifications, and Advancement

Computer operators usually receive on-the-job training in order to become acquainted with their employer's equipment and routines. The length of training varies with the job and the experience of the

worker. However, previous work experience is the key to obtaining an operator job in many large establishments. Employers generally look for specific, hands-on experience with the type of equipment and related operating systems they use. Additionally, formal computer-related training, perhaps through a community college or technical school, is recommended. Related training also can be obtained through the Armed Forces and from some computer manufacturers. As computer technology changes and data processing centers become more automated, employers will increasingly require candidates to have formal training and experience for operator jobs. And although not required, a bachelor's degree in a computer-related field can be helpful when one is seeking employment as a computer operator.

Because computer technology changes so rapidly, operators must be adaptable and willing to learn. Analytical and technical expertise also are needed, particularly by operators who work in automated data centers, to deal with unique or high-level problems that a computer is not programmed to handle. Operators must be able to communicate well, and to work effectively with programmers, users, and other operators. Computer operators also must be able to work independently because they may have little or no direct supervision.

A few computer operators may advance to supervisory jobs, although most management positions within data-processing or computer-operations centers require advanced formal education, such as a bachelor's or higher degree. Through on-the-job experience and additional formal education, some computer operators may advance to jobs in areas such as network operations or support. As they gain experience in programming, some operators may advance to jobs as programmers or analysts. A move into these types of jobs is becoming much more difficult, as employers increasingly require candidates for more-skilled computer jobs to possess at least a bachelor's degree.

### Job Outlook

Employment of computer operators is expected to decline sharply through the year 2010. Experienced operators are expected to compete for the small number of openings that will arise each year to replace workers who transfer to other occupations or leave the labor force. Opportunities will be best for operators who have formal computer-related education, are familiar with a variety of operating systems, and keep up-to-date with the latest technology.

Advances in technology have reduced both the size and cost of computer equipment, while increasing the capacity for data storage and processing automation. Sophisticated computer hardware and software are now used in practically every industry, in such areas as factory and office automation, telecommunications, medicine, education, and administration. The expanding use of software that automates computer operations gives companies the option of making systems user-friendly, greatly reducing the need for operators. Such improvements require operators to monitor a greater number of operations at the same time and be capable of solving a broader range of problems that may arise. The result is that fewer operators will be needed to perform more highly skilled work.

Computer operators who are displaced by automation may be reassigned to support staffs that maintain personal computer networks or assist other members of the organization. Operators who keep up with changing technology, by updating their skills and enhancing their training, should have the best prospects of moving into other areas such as network administration and technical support. Others may be retrained to perform different job duties, such as supervising an operations center, maintaining automation packages, or analyzing computer operations to recommend ways to increase productivity. In the future, operators who wish to work in the computer field will need to know more about programming,

automation software, graphics interface, client/server environments, and open systems, in order to take advantage of changing opportunities.

### Earnings

Median annual earnings of computer operators were \$27,670 in 2000. The middle 50 percent earned between about \$21,280 and \$35,320 a year. The highest 10 percent earned more than \$43,950, and the lowest 10 percent earned less than \$17,350. Median annual earnings in the industries employing the largest numbers of computer operators in 2000 are shown below:

Computer and data processing services .....	\$28,530
Hospitals .....	26,550
Commercial banks .....	22,840
Personnel supply services .....	22,130
Miscellaneous business services .....	21,980

The average salary for computer operators employed by the Federal Government was \$37,574 in early 2001.

According to Robert Half International, the average starting salaries for console operators ranged from \$28,250 to \$40,500 in 2001. Salaries generally are higher in large organizations than in small ones.

### Related Occupations

Other occupations involving work with computers include computer software engineers; computer programmers; computer support specialists and systems administrators; and systems analysts, computer scientists, and database administrators. Other occupations in which workers operate electronic office equipment include data entry and information-processing workers, as well as secretaries and administrative assistants.

### Sources of Additional Information

For information about work opportunities in computer operations, contact establishments with large computer centers, such as banks, manufacturing and insurance firms, colleges and universities, and data processing service organizations. The local office of the State employment service can supply information about employment and training opportunities.

## Data Entry and Information Processing Workers

(O\*NET 43-9021.00, 43-9022.00)

### Significant Points

- Workers can acquire their skills through high schools, community colleges, business schools, or self-teaching aids such as books, tapes, or Internet tutorial applications.
- Overall employment is projected to decline due to the proliferation of personal computers and other technologies; however, the need to replace workers who leave this large occupation each year should produce many job openings.
- Those with expertise in appropriate computer software applications should have the best job prospects.

### Nature of the Work

Organizations need to process a rapidly growing amount of information. Data entry and information processing workers help ensure

this work is handled smoothly and efficiently. By typing texts, entering data into a computer, operating a variety of office machines, and performing other clerical duties, these workers help organizations keep up with the rapid changes of the "Information Age."

*Word processors* and *typists* usually set up and prepare reports, letters, mailing labels, and other text material. *Typists* make neat, typed copies of materials written by other clerical, professional, or managerial workers. They may begin as entry-level workers by typing headings on form letters, addressing envelopes, or preparing standard forms on typewriters or computers. As they gain experience, they often are assigned tasks requiring a higher degree of accuracy and independent judgment. Senior typists may work with highly technical material, plan and type complicated statistical tables, combine and rearrange materials from different sources, or prepare master copies.

Most keyboarding is now done on word processing equipment—usually a personal computer or part of a larger computer system—which normally includes a keyboard, video display terminal, and printer, and may have "add-on" capabilities such as optical character recognition readers. *Word processors* use this equipment to record, edit, store, and revise letters, memos, reports, statistical tables, forms, and other printed materials. Although it is becoming less common, some word processing workers are employed in centralized word processing teams that handle the transcription and typing for several departments.

In addition to the duties mentioned above, word processors and typists often perform other office tasks, such as answering telephones, filing, and operating copiers or other office machines. Job titles of these workers often vary to reflect these duties. Clerk typists, for example, combine typing with filing, sorting mail, answering telephones, and other general office work. Notereaders transcribe stenotyped notes of court proceedings into standard formats.

*Data entry keyers* usually input lists of items, numbers, or other data into computers or complete forms that appear on a computer screen. They may also manipulate existing data, edit current information, or proofread new entries to a database for accuracy. Some

examples of data sources include customers' personal information, medical records, and membership lists. Usually this information is used internally by a company and may be reformatted before use by other departments or by customers.

Keyers use various types of equipment to enter data. Many keyers use a machine that converts the information they type to magnetic impulses on tapes or disks for entry into a computer system. Others prepare materials for printing or publication by using data entry composing machines. Some keyers operate online terminals or personal computers. Data entry keyers increasingly also work with nonkeyboard forms of data entry such as scanners and electronically transmitted files. When using these new character recognition systems, data entry keyers often enter only those data which cannot be recognized by machines. In some offices, keyers also operate computer peripheral equipment such as printers and tape readers, act as tape librarians, and perform other clerical duties.

### **Working Conditions**

Data entry and information processing workers usually work a standard 40-hour week in clean offices. They sit for long periods and sometimes must contend with high noise levels caused by various office machines. These workers are susceptible to repetitive strain injuries, such as carpal tunnel syndrome and neck, back, and eye strain. To help prevent these from occurring, many offices have scheduled exercise breaks, ergonomically designed keyboards, and workstations that allow workers to stand or sit as they wish.

### **Employment**

Data entry and information processing workers held about 806,000 jobs in 2000 and were employed in every sector of the economy; 509,000 were data entry keyers and 297,000 were word processors and typists. Some workers telecommute by working from their homes on personal computers linked by telephone lines to those in the main office. This enables them to type material at home while still being able to produce printed copy in their offices.

About 1 out of 3 data entry and information processing workers held jobs in firms providing business services, including temporary help, word processing, and computer and data processing. Nearly 1 out of 5 worked in Federal, State, and local government agencies.

### **Training, Other Qualifications, and Advancement**

Employers generally hire high school graduates who meet their requirements for keyboarding speed. Increasingly, employers also expect applicants to have word processing or data entry training or experience. Spelling, punctuation, and grammar skills are important, as is familiarity with standard office equipment and procedures.

Students acquire skills in keyboarding and in the use of word processing, spreadsheet, and database management computer software packages through high schools, community colleges, business schools, temporary help agencies, or self-teaching aids such as books, tapes, or Internet tutorials applications.

For many people, a job as a data entry and information processing worker is their first job after graduating from high school or after a period of full-time family responsibilities. This work frequently serves as a steppingstone to higher paying jobs with increased responsibilities. Large companies and government agencies usually have training programs to help administrative employees upgrade their skills and advance to other positions. It is common for data entry and information processing workers to transfer to other administrative jobs, such as secretary, administrative assistant, statistical clerk, or to be promoted to a supervisory job in a word processing or data entry center.



*Data entry and information processing workers may transcribe Braille for the visually impaired.*

## Job Outlook

Overall employment of data entry and information processing workers is projected to decline through 2010. Nevertheless, the need to replace those who transfer to other occupations or leave this large occupation for other reasons will produce numerous job openings each year. Job prospects will be most favorable for those with the best technical skills—in particular, expertise in appropriate computer software applications. Data entry and information processing workers must be willing to continuously upgrade their skills to remain marketable.

Although data entry and information processing workers are all affected by productivity gains stemming from organizational restructuring and the implementation of new technologies, projected growth differs among these workers. Employment of word processors and typists is expected to decline due to the proliferation of personal computers which allows other workers to perform duties formerly assigned to word processors and typists. Most professionals and managers, for example, now use desktop personal computers to do their own word processing. Because technologies affecting data entry keyers tend to be costlier to implement, however, these workers will be less affected by technology and should experience slower than average growth.

Employment growth of data entry keyers will still be dampened by productivity gains, as various data capturing technologies, such as bar code scanners, voice recognition technologies, and sophisticated character recognition readers, become more prevalent. These technologies can be applied to a variety of business transactions, such as inventory tracking, invoicing, and order placement. Moreover, as telecommunications technology improves, many organizations will increasingly take advantage of computer networks that allow data to be transmitted electronically, thereby avoiding the reentry of data. These technologies will allow more data to be entered automatically into computers, reducing the demand for data entry keyers.

In addition to technology, employment of data entry and information processing workers will be adversely affected as businesses increasingly contract out their work. Many organizations have reduced or even eliminated permanent in-house staff, for example, in favor of temporary-help and staffing services firms. Some large data entry and information processing firms increasingly employ workers in nations with low wages to enter data. As international trade barriers continue to fall and telecommunications technology improves, this transfer will mean reduced demand for data entry keyers in the United States.

## Earnings

Median annual earnings of word processors and typists in 2000 were \$24,710. The middle 50 percent earned between \$20,070 and \$29,500. The lowest 10 percent earned less than \$16,410, while the highest 10 percent earned more than \$35,410. The salaries of these workers vary by industry and by region. In 2000, median annual earnings in the industries employing the largest numbers of word processors and typists were:

Local government .....	\$25,710
State government .....	24,850
Federal Government .....	23,890
Elementary and secondary schools .....	23,300
Personnel supply services .....	22,720

Median annual earnings of data entry keyers in 2000 were \$21,300. The middle 50 percent earned between \$17,850 and \$25,820. The lowest 10 percent earned less than \$15,140, and the highest 10 percent earned more than \$30,910. In 2000, median annual earnings in the industries employing the largest numbers of data entry keyers were:

Federal Government .....	\$27,260
Accounting, auditing, and bookkeeping .....	22,310
Computer and data processing services .....	20,480
Commercial banks .....	20,410
Personnel supply services .....	20,070

In the Federal Government, clerk-typists and data entry keyers without work experience started at \$16,015 a year in 2001. Beginning salaries were slightly higher in selected areas where the prevailing local pay level was higher. The average annual salary for all clerk-typists in the Federal Government was 24,934 in 2001.

## Related Occupations

Data entry and information processing workers must transcribe information quickly. Other workers who deliver information in a timely manner are dispatchers and communications equipment operators. Data entry and information processing workers also must be comfortable working with office automation, and in this regard they are similar to court reporters, medical records and health information technicians, secretaries and administrative assistants, and computer operators.

## Sources of Additional Information

For information about job opportunities for data entry and information processing workers, contact the nearest office of the State employment service.

# Desktop Publishers

(O\*NET 43-9031.00)

## Significant Points

- Desktop publishers rank among the 10 fastest growing occupations.
- Most jobs are in firms that handle commercial or business printing, and in newspaper plants.
- Although formal training is not always required, those with certification or degrees will have the best job opportunities.

## Nature of the Work

Using computer software, desktop publishers format and combine text, numerical data, photographs, charts, and other visual graphic elements to produce publication-ready material. Depending on the nature of a particular project, desktop publishers may write and edit text, create graphics to accompany text, convert photographs and drawings into digital images and then manipulate those images, design page layouts, create proposals, develop presentations and advertising campaigns, typeset and do color separation, and translate electronic information onto film or other traditional forms. Materials produced by desktop publishers include books, business cards, calendars, magazines, newsletters and newspapers, packaging, slides, and tickets. As companies have brought the production of marketing, promotional, and other kinds of materials in-house, they increasingly have employed people who can produce such materials.

Desktop publishers use a keyboard to enter and select formatting specifics such as size and style of type, column width, and spacing, and store them in the computer. The computer then displays and arranges columns of type on a video display terminal or computer monitor. An entire newspaper, catalog, or book page, complete with artwork and graphics, can be created on the screen





*Desktop publishers use computer software to prepare material for publication.*

exactly as it will appear in print. Operators transmit the pages for production either into film and then into printing plates, or directly into plates.

Desktop publishing is a rapidly changing field that encompasses a number of different kinds of jobs. Personal computers enable desktop publishers to perform publishing tasks that would otherwise require complicated equipment and human effort. Advances in computer software and printing technology continue to change and enhance desktop publishing work. Instead of receiving simple typed text from customers, desktop publishers get the material on a computer disk. Other innovations in desktop publishing work include digital color page makeup systems, electronic page layout systems, and off-press color proofing systems. And because most materials today often are published on the Internet, desktop publishers may need to know electronic publishing technologies, such as Hypertext Markup Language (HTML), and may be responsible for converting text and graphics to an Internet-ready format.

Typesetting and page layout have been affected by the technological changes shaping desktop publishing. Increasingly, desktop publishers use computers to do much of the typesetting and page layout work formerly done by prepress workers, posing new challenges for the printing industry. The old “hot type” method of text composition—which used molten lead to create individual letters, paragraphs, and full pages of text—is nearly extinct. Today, composition work is primarily done with computers. Improvements in desktop publishing software also allow customers to do much more of their own typesetting.

Desktop publishers use scanners to capture photographs, images or art as digital data that can be incorporated directly into electronic page layouts or further manipulated using computer software. The desktop publisher then can correct for mistakes or compensate for deficiencies in the original color print or transparency. Digital files are used to produce printing plates. Like photographers and multimedia artists and animators, desktop publishers also can create special effects or other visual images using film, video, computers, or other electronic media. (Separate statements on photographers and artists and related workers appear elsewhere in the *Handbook*.)

Depending on the establishment employing these workers, desktop publishers also may be referred to as publications specialists, electronic publishers, DTP operators, desktop publishing editors, electronic prepress technicians, electronic publishing specialists, image designers, typographers, compositors, layout artists, and web publications designers.

## **Working Conditions**

Desktop publishers usually work in clean, air-conditioned office areas with little noise. Desktop publishers usually work an 8-hour day, 5 days a week. Some workers—particularly those self-employed—work night shifts, weekends, and holidays.

Desktop publishers often are subject to stress and the pressures of short deadlines and tight work schedules. Like other workers who spend long hours working in front of a computer monitor, they may be susceptible to eyestrain, back discomfort, and hand and wrist problems.

## **Employment**

Desktop publishers held about 38,000 jobs in 2000. Nearly all worked in the printing and publishing industries. About 1,000 desktop publishers were self-employed.

Most desktop publishing jobs were found in firms that handle commercial or corporate printing, and in newspaper plants. Commercial printing firms print a wide range of products—newspaper inserts, catalogs, pamphlets, and advertisements—while business form establishments print material such as sales receipts. A large number of desktop publishers also were found in printing trade services firms. Establishments in printing trade services typically perform custom compositing, platemaking, and related prepress services. Others work printing or publishing materials “in-house” or “in-plant” for business services firms, government agencies, hospitals, or universities, typically in a reproduction or publications department that operates within the organization.

The printing and publishing industry is one of the most geographically dispersed in the United States, and desktop publishing jobs are found throughout the country. However, job prospects may be best in large metropolitan cities.

## **Training, Other Qualifications, and Advancement**

Most workers qualify for jobs as desktop publishers by taking classes or completing certificate programs at vocational schools, universities and colleges, or via the Internet. Programs range in length, but the average nondegree certification training program takes approximately 1 year. However, some desktop publishers train on the job to develop the necessary skills. The length of training on the job varies by company. An internship or part-time desktop publishing assignment is another way to gain experience as a desktop publisher.

Students interested in pursuing a career in desktop publishing also may obtain an associate degree in applied science or a bachelor’s degree in graphic arts, graphic communications or graphic design. Graphic arts programs are a good way to learn about desktop publishing software used to format pages, assign type characteristics, and import text and graphics into electronic page layouts to produce printed materials such as advertisements, brochures, newsletters, and forms. Applying this knowledge of graphic arts techniques and computerized typesetting usually are intended for students who may eventually move into management positions, while 2-year associate degree programs are designed to train skilled workers. Students also develop finely tuned skills in typography, print mediums, packaging, branding and identity, Web design and motion graphics. These programs teach print and graphic design fundamentals and provide an extensive background in imaging, prepress, print reproduction, and emerging media. Courses in other aspects of printing also are available at vocational-technical institutes, industry-sponsored update and retraining programs, and private trade and technical schools.

Although formal training is not always required, those with certification or degrees will have the best job opportunities. Most employers prefer to hire people who have at least a high school diploma, possess good communication skills, basic computer skills,



and a strong work ethic. Desktop publishers should be able to deal courteously with people because in small shops they may have to take customer orders. They also may add, subtract, multiply, divide, and compute ratios to estimate job costs. Persons interested in working for firms using advanced printing technology need to know the basics of electronics and computers.

Desktop publishers need good manual dexterity, and they must be able to pay attention to detail and work independently. Good eyesight, including visual acuity, depth perception, field of view, color vision, and the ability to focus quickly, also are assets. Artistic ability often is a plus. Employers also seek persons who are even-tempered and adaptable—important qualities for workers who often must meet deadlines and learn how to operate new equipment.

Workers with limited training and experience may start as helpers. They begin with instruction from an experienced desktop publisher and advance based on their demonstrated mastery of skills at each level. All workers should expect to be retrained from time to time to handle new, improved software and equipment. As workers gain experience, they advance to positions with greater responsibility. Some move into supervisory or management positions. Other desktop publishers may start their own company or work as an independent consultant, while those with more artistic talent and further education may find opportunities in graphic design or commercial art.

### Job Outlook

Employment of desktop publishers is expected to grow much faster than the average for all occupations through 2010, as more page layout and design work is performed in-house using computers and sophisticated publishing software. Desktop publishing is replacing much of the prepress work done by compositors and typesetters, enabling organizations to reduce costs while increasing production speeds. Many new jobs for desktop publishers are expected to emerge in commercial printing and publishing establishments. However, more companies also are turning to in-house desktop publishers, as computers with elaborate text and graphics capabilities have become common, and desktop publishing software has become cheaper and easier to use. In addition to employment growth, many job openings for desktop publishers also will result from the need to replace workers who move into managerial positions, transfer to other occupations, or who leave the labor force.

Printing and publishing costs represent a significant portion of a corporation's expenses, no matter the industry, and corporations are finding it more profitable to print their own newsletters and other reports than to send them out to trade shops. Desktop publishing reduces the time needed to complete a printing job, and allows commercial printers to make inroads into new markets that require fast turnaround.

Most employers prefer to hire experienced desktop publishers. As more people gain desktop publishing experience, however, competition for jobs may increase. Among persons without experience, opportunities should be best for those with computer backgrounds who are certified or who have completed postsecondary programs in desktop publishing or graphic design. Many employers prefer graduates of these programs because the comprehensive training they receive helps them learn the page layout process and adapt more rapidly to new software and techniques.

### Earnings

Earnings for desktop publishers vary according to level of experience, training, location, and size of firm. Median annual earnings of desktop publishers were \$30,600 in 2000. The middle 50 percent earned between \$22,890 and \$40,210. The lowest 10 percent earned less than \$17,800, and the highest 10 percent earned more than

\$50,920 a year. Median annual earnings in the industries employing the largest numbers of these workers in 2000 are shown below:

Commercial printing .....	\$30,940
Newspapers .....	24,520

### Related Occupations

Desktop publishers use artistic and editorial skills in their work. These skills also are essential for artists and related workers; designers; news analysts, reporters, and correspondents; public relations specialists; writers and editors; and prepress technicians and workers.

### Sources of Additional Information

Details about apprenticeship and other training programs may be obtained from local employers such as newspapers and printing shops, or from local offices of the State employment service.

For information on careers and training in printing, desktop publishing, and graphic arts, write to:

► Graphic Communications Council, 1899 Preston White Dr., Reston, VA 20191. Internet: <http://www.npes.org>

► Graphic Arts Technical Foundation, 200 Deer Run Rd., Sewickley, PA 15143. Internet: <http://www.gatf.org>

For information on benefits and compensation in desktop publishing, write to:

► Printing Industries of America, Inc., 100 Daingerfield Rd., Alexandria, VA 22314. Internet: <http://www.gain.org>

## Financial Clerks

(O\*NET 43-3011.00, 43-3021.01, 43-3021.02, 43-3021.03, 43-3031.00, 43-3041.00, 43-3051.00, 43-3061.00, 43-3071.00)

### Significant Points

- Most jobs require only a high school diploma.
- Numerous job opportunities should arise due to high turnover.
- Slower than average growth is expected in overall employment, reflecting the spread of computers and other office automation as well as organizational restructuring.

### Nature of the Work

Financial clerks keep track of money. They record all amounts coming into or leaving an organization. Their records are vital to an organization's need to keep track of all revenues and expenses. While most financial clerks work in offices maintaining and processing various accounting records, some deal directly with customers, taking in and paying out money. When bills are not paid on time, financial clerks must contact customers to find out why and attempt to resolve the problem. Other clerks keep track of a store's inventory and order replacement stock when supplies are low. (Additional information about specific financial clerks appears in separate statements that follow this introductory statement.)

Depending on their specific titles, these workers perform a wide variety of financial recordkeeping duties. *Bill and account collectors* notify customers with delinquent accounts in order to solicit payment. *Billing and posting clerks and machine operators* prepare bills and invoices. *Bookkeeping, accounting, and auditing clerks* maintain financial data in computer and paper files. *Payroll and timekeeping clerks* compute wages for payroll records and review employee timecards. *Procurement clerks* prepare purchase orders and monitor purchase requests. *Tellers* receive and pay out

money for financial institutions, while *gaming cage workers* perform many of the same services for casinos.

The duties of financial clerks vary with the size of the firm. In a small business, a bookkeeper may handle all financial records and transactions, as well as payroll and billing duties. A large firm, on the other hand, may employ specialized accounting, payroll, and billing clerks. In general, however, clerical staffs in firms of all sizes increasingly perform a broader variety of tasks than in the past.

Another change in these occupations is the growing use of financial software to enter and manipulate data. Computer programs automatically perform calculations on data that were previously calculated manually. Computers also enable clerks to access data within files more quickly and even generate statements automatically. Nevertheless, most workers still keep backup paper records for research, auditing, and reference purposes, although a paperless office is increasingly the goal for many organizations.

Despite the growing use of automation, interaction with the public and coworkers remains a basic part of the job for many financial clerks. Payroll clerks, for example, answer questions concerning employee benefits; tellers and gaming cage workers help customers with their financial needs, and procurement clerks often have to deal with an organization's suppliers.

**Working Conditions**

With the exception of gaming cage workers, financial clerks typically are employed in an office environment. Bill collectors who work for third-party collection agencies may spend most of their days on the phone in a call center environment. However, a growing number of financial clerks, particularly medical billers, work at home and many work part time.

Because the majority of financial clerks use computers on a daily basis, these workers may experience eye and muscle strain, backaches, headaches, and repetitive motion injuries. Also, clerks who review detailed data may have to sit for extended periods of time.

Most financial clerks work regular business hours. However, since most casinos are open 24 hours a day, gaming cage workers often work in shifts, including nights and weekends. Tellers can work some evenings and Saturday mornings, while bill collectors often have to work evenings and weekends when it is easier to reach people. Accounting clerks may work longer hours to meet deadlines at the end of the fiscal year, during tax time, or when monthly and yearly accounting audits are performed. Billing, bookkeeping, and accounting clerks in hotels, restaurants, and stores may work overtime during peak holiday and vacation seasons.

**Employment**

Financial clerks held more than 3.7 million jobs in 2000. The following tabulation shows employment in individual clerical occupations:

Bookkeeping, accounting, and auditing clerks .....	1,991,000
Billing and posting clerks and machine operators .....	506,000
Tellers .....	499,000
Bill and account collectors .....	400,000
Payroll and timekeeping clerks .....	201,000
Procurement clerks .....	76,000
Gaming cage workers .....	22,000

These workers are employed in virtually every industry, including manufacturing, business and health services, and government. However, it is becoming more common for these clerks to work for companies that specialize in performing specific accounting services, such as bill collection, medical billing, and payroll services as companies seek to cut costs and outsource many administrative functions. Also, more financial clerks are finding jobs with personnel supply agencies, as companies increasingly hire temporary workers for peak periods.

All financial clerk occupations have some part-time workers, but tellers and bookkeeping, accounting, and auditing clerks have the most with more than one-fourth working part time.

**Training, Other Qualifications, and Advancement**

Most financial clerks are required to have at least a high school diploma. However, having some college is becoming increasingly important, particularly for those occupations requiring knowledge of accounting. For occupations such as bookkeepers, accounting clerks, and procurement clerks, an associate's degree in business or accounting often is required. Some financial clerks have bachelor's degrees in business, accounting, or liberal arts. Although a degree is rarely required, many graduates accept entry-level clerical positions to get into a particular company or to enter the finance or accounting field with the hope of being promoted to professional or managerial positions. Some companies have a set plan of advancement that tracks college graduates from entry-level clerical jobs into managerial positions. Workers with bachelor's degrees are likely to start at higher salaries and advance more easily than those without degrees.

Experience in a related job also is recommended for a number of these positions. For example, cash-handling experience is important for gaming cage workers and tellers. Telemarketing experience is useful for bill and account collectors. For other financial clerks, experience working in an office environment or in customer service is always beneficial. Regardless of the type of work, most employers prefer workers with good communication skills who are computer-literate; knowledge of word processing and spreadsheet software is especially valuable.

Gaming cage workers have additional requirements. They must be at least 21 years old and they are required to obtain a license by the State gaming commission or other regulatory body. In addition to a fee, applicants must provide a photograph and proof of age and residence. A background check is conducted to make sure that applicants do not have a criminal history.

Once hired, financial clerks usually receive on-the-job training. Under the guidance of a supervisor or other senior worker, new employees learn company procedures. Some formal classroom training also may be necessary, such as training in specific computer software. Bill and account collectors generally receive training in telephone techniques, negotiation skills, and the laws governing the collection of debt. Financial clerks must be careful, orderly, and detail-oriented in order to avoid making errors and recognize errors made by others. These workers also should be discreet and trustworthy, because they frequently come in contact with confidential material. Additionally, all financial clerks should have a strong aptitude for numbers.

Bookkeepers, particularly those who handle all the recordkeeping for companies, may find it beneficial to become certified. The Certified Bookkeeper designation, awarded by the American Institute of Professional Bookkeepers, assures employers that individuals have the skills and knowledge required to carry out all the bookkeeping and accounting functions up through the adjusted trial balance, including payroll functions. For certification, candidates must have at least 2 years bookkeeping experience, pass three tests, and adhere to a code of ethics. Collection agencies may require their collectors to become certified by the American Collectors Association (ACA). ACA seminars concentrate on current State and Federal compliance laws. Since most States recognize these credentials, ACA-certified collectors have greater career mobility. Tellers can prepare for better jobs by taking courses offered throughout the country by banking and financial institutes, colleges and universities, and private training institutions.

Financial clerks usually advance by taking on more duties in the same occupation for higher pay or by transferring to a closely related occupation. For example, procurement clerks with the appropriate experience often become buyers. Most companies fill office and administrative support supervisory and managerial positions by promoting individuals from within their organization, so financial clerks who acquire additional skills, experience, and training improve their advancement opportunities. With appropriate experience and education, some clerks may become accountants; human resource specialists; or buyers.

### Job Outlook

Overall employment of financial clerks is expected to grow more slowly than the average for all occupations through 2010. Despite continued growth in the volume of business transactions, rising productivity stemming from the spread of office automation, as well as organizational restructuring, will adversely affect demand for financial clerks. Turnover in this large occupation, however, will provide the most job openings. As a result, opportunities should be plentiful for full-time and part-time employment as financial clerks transfer to other occupations or leave the labor force.

Many basic data entry accounting and clerical jobs already have become heavily automated. Productivity has increased significantly, as workers increasingly use personal computers instead of manual entry and time-consuming equipment such as typewriters, adding machines, and calculators. The growing use of bar code readers, point-of-sale terminals, automated teller machines, and optical scanners that record transactions reduces much of the data entry handled by financial clerks. In addition, the use of local area networks also is facilitating electronic data interchange—the sending of data from computer to computer—abolishing the need for clerks to reenter the data. To further eliminate duplicate functions, many large companies are consolidating their clerical operations in a central office where accounting, billing, personnel, and payroll functions are performed for all offices—main and satellite—within the organization. In addition, as more companies merge or are acquired, accounting departments also are usually merged, reducing the number of financial clerks. More companies also are outsourcing their accounting functions to specialized companies that can do the job more efficiently.

Despite the expected slow growth, some financial clerks will fare better than others. The number of gaming cage workers should grow over time as more Indian tribes become involved in gaming. Also, the number of bill collectors is expected to increase as consumer debt continues to rise. The healthcare services industry is expected to hire more financial clerks, particularly billing clerks, to match the explosive growth of this sector and to process the large amounts of paperwork required to process patient claims.

### Earnings

Salaries of financial clerks vary considerably. The region of the country, size of city, and type and size of establishment all influence salary levels. Also, the level of expertise required and the complexity and uniqueness of a clerk's responsibilities also may affect earnings. Median hourly earnings of full-time financial clerks in 2000 were as follows:

Procurement clerks .....	\$13.33
Payroll and timekeeping clerks .....	13.07
Bookkeeping, accounting, and auditing clerks .....	12.34
Bill and account collectors .....	12.17
Billing and posting clerks and machine operators .....	11.81
Gaming cage workers .....	9.99
Tellers .....	9.21

In addition to their salary, some bill and account collectors receive commissions or bonuses based on the number of cases they close.

### Related Occupations

Financial clerks enter data into a computer, handle cash, and keep track of business and other financial transactions. Higher level financial clerks can generate reports and perform analysis of the financial data. Other occupations that perform these duties include brokerage clerks; cashiers; credit authorizers, checkers, and clerks; loan interviewers and clerks; new accounts clerks; order clerks; and secretaries and administrative assistants.

For more information on financial clerks, see the following statements on bill and account collectors; billing and posting clerks and machine operators; bookkeeping, accounting, and auditing clerks; gaming cage workers; payroll and timekeeping clerks; procurement clerks; and tellers.

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## Bill and Account Collectors

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(O\*NET 43-3011.00)

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### Nature of the Work

Bill and account collectors, called simply *collectors*, keep track of accounts that are overdue and attempt to collect payment on them. Some are employed by third-party collection agencies, while others, known as “in-house collectors,” work directly for the original creditors, such as department stores, hospitals, or banks.

The duties of bill and account collectors are similar in the many different organizations in which they are employed. First, collectors are called upon to locate and notify customers of delinquent accounts, usually over the telephone, but sometimes by letter. When customers move without leaving a forwarding address, collectors may check with the post office, telephone companies, credit bureaus, or former neighbors to obtain their new address. This is called “skiptracing.”

Once collectors find the debtor, they inform them of the overdue account and solicit payment. If necessary, they review the terms of the sale, service, or credit contract with the customer. Collectors also may attempt to learn the cause of the delay in payment. Where feasible, they offer the customer advice on how to pay off the debts, such as by taking out a bill consolidation loan. However, the collector's objective is always to ensure that the customer first pays the debt in question.

If a customer agrees to pay, collectors record this commitment and check later to verify that the payment was indeed made. Collectors may have authority to grant an extension of time if customers ask for one. If a customer fails to respond, collectors prepare a statement indicating this for the credit department of the establishment. In more extreme cases, collectors may initiate repossession proceedings, service disconnections, or hand the account over to an attorney for legal action. Most collectors handle other administrative functions for the accounts assigned to them. This may include recording changes of addresses, and purging the records of the deceased.

Collectors use computers and a variety of automated systems to keep track of overdue accounts. Typically, collectors work at video display terminals that are linked to computers. In sophisticated predictive dialer systems, a computer dials the telephone automatically and the collector speaks only when a connection has been made. Such systems eliminate time spent calling busy or nonanswering



## Billing and Posting Clerks and Machine Operators

(O\*NET 43-3021.01, 43-3021.02, 43-3021-03)

### Nature of the Work

Billing and posting clerks and machine operators, commonly called *billing clerks*, compile records of charges for services rendered or goods sold, calculate and record the amounts of these services and goods, and prepare invoices to be mailed to customers.

*Billing clerks* review purchase orders, sales tickets, hospital records, or charge slips to calculate the total amount due from a customer. They must take into account any applicable discounts, special rates, or credit terms. A billing clerk for a trucking company often needs to consult a rate book to determine shipping costs of machine parts, for example. A hospital's billing clerk may need to contact an insurance company to determine what they will reimburse. In accounting, law, consulting, and similar firms, billing clerks calculate client fees based on the actual time required to perform the task. They keep track of the accumulated hours and dollar amounts to charge to each job, the type of job performed for a customer, and the percentage of work completed.

After billing clerks review all necessary information, they compute the charges using calculators or computers. They then prepare itemized statements, bills, or invoices used for billing and recordkeeping purposes. In one organization, the clerk might prepare a bill containing the amount due and date and type of service; in another, the clerk would produce a detailed invoice with codes for all goods and services provided. This latter form might list items sold, credit terms, date of shipment or dates services were provided, a salesperson's or doctor's identification, if necessary, and the sales total.

Computers and specialized billing software allow many clerks to calculate charges and prepare bills in one step. Computer packages prompt clerks to enter data from hand-written forms and manipulate the necessary entries of quantities, labor, and rates to be charged. Billing clerks verify the entry of information and check for errors before the computer prints the bill. After the bills are printed, billing clerks check them again for accuracy. In offices that are not automated, *billing machine operators* run off the bill on a billing machine to send to the customer.

In addition to producing invoices, billing clerks may be asked to handle follow-up questions from customers and resolve any



*Billing clerks may review purchase orders, charge slips, or hospital records to calculate customers' bills.*

*Bill and account collectors often use computers to keep track of overdue accounts.*

numbers. Many collectors use regular telephones, but others wear headsets like those used by telephone operators.

### Employment

Bill and account collectors held about 400,000 jobs in 2000. About 1 in 6 collectors work for collection agencies. Many others work in banks, department stores, government, hospitals, and other institutions that lend out money and extend credit.

### Job Outlook

Employment of bill and account collectors is expected to grow faster than the average for all occupations through 2010, as the level of consumer debt continues to rise and as more companies seek to improve their debt collection by contracting with third-party collection agencies. Hospitals and physician's offices are two of the fastest growing areas requiring collectors. With insurance reimbursements not keeping up with cost increases, the healthcare industry is seeking to recover more money from patients. Government agencies also are using collectors more to collect on everything from parking tickets to child-support payments and past-due taxes. An increasing number of mergers between collection agencies may reduce the overall growth in the number collectors, as small, less automated agencies are bought, resulting in a bigger, more efficient firm. Contrary to the pattern in most occupations, employment of bill and account collectors tends to rise during recessions, reflecting the difficulty that many people have in meeting their financial obligations. However, success at getting people to repay their debts is better when the economy is good.

### Sources of Additional Information

Career information on bill and account collectors is available from:  
 ► American Collectors Association, Inc., P.O. Box 39106, Minneapolis, MN 55439-0106. Internet: <http://www.collector.com>

(Information on working conditions, training requirements, and earnings appears in the introduction to financial clerk occupations.)

discrepancies or errors. And, finally, all changes must be entered in the accounting records.

### Employment

In 2000, billing and posting clerks and machine operators held about 506,000 jobs. Although all industries employ billing clerks, the health services industry employs the most. About 1 in 3 billing clerks work in health services. Transportation and wholesale trade industries also employ a large number of billing clerks.

### Job Outlook

Employment of billing and posting clerks and machine operators is expected to grow more slowly than the average for all occupations through the year 2010. As computers simplify the jobs of most billing clerks, more of these jobs are being performed by other accounting or bookkeeping clerks. In addition to employment growth, many job openings will occur as workers transfer to other occupations or leave the labor force. Turnover in this occupation is relatively high, which is characteristic of an entry-level occupation requiring only a high school diploma.

Most of the employment growth will occur in the expanding health services industries and in accounting firms and other billing services companies, as a result of increased outsourcing of this service. Other areas will see declines as the billing function becomes increasingly automated and invoices and statements are automatically generated upon delivery of the service or shipment of the goods. Bills also will increasingly be delivered electronically over the Internet, eliminating the production and mailing of paper bills. The health services area will also see increasing automation. More medical billers are using electronic billing software to electronically submit insurance claims to the insurer. This speeds up the process and eliminates many of the coding errors that medical bills are prone to have. The standardization of codes in the medical field also is expected to simplify medical bills and reduce errors.

(See the introductory statement on financial clerks for information on working conditions, training requirements, and earnings.)

### Sources of Additional Information

Information on employment opportunities for billing clerks is available from local offices of the State employment service.

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## Bookkeeping, Accounting, and Auditing Clerks

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(O\*NET 43-3031.00)

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### Nature of the Work

Bookkeeping, accounting, and auditing clerks are an organization's financial recordkeepers. They update and maintain one or more accounting records, including those that tabulate expenditures, receipts, accounts payable and receivable, and profit and loss. They have a wide range of skills and knowledge, from full-charge bookkeepers, who can maintain an entire company's books, to accounting clerks who handle specific accounts. All of these clerks make numerous computations each day and increasingly must be comfortable using computers to calculate and record data.

In small establishments, *bookkeeping clerks* handle all financial transactions and recordkeeping. They record all transactions, post debits and credits, produce financial statements, and prepare reports and summaries for supervisors and managers. Bookkeepers also prepare bank deposits by compiling data from cashiers, verifying and balancing receipts, and sending cash, checks, or other forms of payment to the bank. They also may handle the



*Bookkeepers with some college accounting training will have the best job prospects.*

payroll, make purchases, prepare invoices, and keep track of overdue accounts.

In large offices and accounting departments, *accounting clerks* have more specialized tasks. Their titles often reflect the type of accounting they do, such as accounts payable clerk or accounts receivable clerk. In addition, responsibilities vary by level of experience. Entry-level accounting clerks post details of transactions, total accounts, and compute interest charges. They also may monitor loans and accounts, to ensure that payments are up to date.

More advanced accounting clerks may total, balance, and reconcile billing vouchers; ensure completeness and accuracy of data on accounts; and code documents, according to company procedures. They post transactions in journals and on computer files and update these files when needed. Senior clerks also review computer printouts against manually maintained journals and make necessary corrections. They also may review invoices and statements to ensure that all information is accurate and complete, and reconcile computer reports with operating reports.

*Auditing clerks* verify records of transactions posted by other workers. They check figures, postings, and documents for correct entry, mathematical accuracy, and proper codes. They also correct or note errors for accountants or other workers to adjust.

As organizations continue to computerize their financial records, many bookkeeping, accounting, and auditing clerks use specialized accounting software on personal computers. They increasingly post charges to accounts on computer spreadsheets and databases, as manual posting to general ledgers is becoming obsolete. These workers now enter information from receipts or bills into computers, which is then stored either electronically, as computer printouts, or both. Widespread use of computers also has enabled bookkeeping, accounting, and auditing clerks to take on additional responsibilities, such as payroll, procurement, and billing. Many of these functions require these clerks to write letters, make phone calls to customers or clients, and interact with colleagues. Therefore, good communication skills are becoming increasingly important.

### Employment

Bookkeeping, accounting, and auditing clerks held about 2 million jobs in 2000. Although they can be found in all industries and levels of government, a growing number work for personnel supply firms, the result of an increase in outsourcing of this occupation. Approximately 1 out of 4 bookkeeping, accounting, and auditing clerks worked part time in 2000.

### Job Outlook

Little or no change is expected in the employment of bookkeeping, accounting, and auditing clerks through 2010. Virtually all job openings will stem from replacement needs. Each year, numerous jobs will become available as these clerks transfer to other occupations or leave the labor force. The large size of this occupation ensures plentiful job openings, including many opportunities for temporary and part-time work, even though turnover is lower than for other clerical jobs.

Although a growing economy will result in more financial transactions and other activities that require these clerical workers, the continuing spread of office automation will lift worker productivity and contribute to the lack of growth in employment. In addition, organizations of all sizes will continue to consolidate various recordkeeping functions, thus reducing the demand for these clerks. Specialized clerks will be in much less demand than those who can do a wider range of accounting activities. Demand for full-charge bookkeepers is expected to increase as they are called upon to do much of the work of accountants. Those with several years of accounting or bookkeeper certification will have the best job prospects.

### Sources of Additional Information

For information on the Certified Bookkeeper designation, contact:

► The American Institute of Professional Bookkeepers, 6001 Montrose Rd., Rockville, MD 20852. Internet: <http://www.aipb.org>

(See the introductory statement on financial clerks for information on working conditions, training requirements, and earnings.)

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## Gaming Cage Workers

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(O\*NET 43-3041.00)

### Nature of the Work

Gaming cage workers, more commonly called *cage cashiers*, work in casinos and other gaming establishments. The “cage,” where these workers can be found, is the central depository for money, gaming chips, and paperwork necessary to support casino play. Cage workers perform a wide range of financial transactions and handle any paperwork that may be required. They perform credit checks and verify credit references for people who want to open a house credit account. They cash checks according to rules established by the casino. Cage workers sell gambling chips, tokens, or tickets to patrons or to other workers for resale to patrons and exchange chips



*Gaming cage workers must follow strict procedures for handling money.*

and tokens for cash. They may use cash registers, adding machines, or computers to calculate and record transactions. At the end of their shift, cage cashiers must reconcile the books and make sure they balance.

Cageworkers must follow a number of rules and regulations related to their handling of money as this industry is highly scrutinized. Large cash transactions, for example, must be reported to the Internal Revenue Service. Also, when determining when to extend credit or cash a check, very detailed procedures must be followed.

### Employment

Gaming cage workers held about 22,000 jobs in 2000. All of them work in the gaming industry, which is heavily concentrated in Nevada and Atlantic City, New Jersey. However, a growing number of States and Indian reservations have legalized gambling and gaming establishments can now be found in many parts of the country.

### Job Outlook

Employment of gaming cage workers is expected to increase faster than the average for all occupations through 2010. In addition, even more job openings should result from high turnover in this occupation due to the high level of scrutiny workers in this occupation receive and the need to be very accurate. Opportunities for gaming cage workers depend on the health of the gaming industry. The industry as a whole is strong and demand will remain high as gambling becomes a more popular and acceptable leisure pursuit. However, as a result of a boom in casino building in the 1990s, slower growth in casino building in established markets is expected. New casinos will be built on Indian reservations, especially in California, where the legislature recently passed a law allowing casinos on tribal lands in that State. Persons with good math skills, some background in accounting or bookkeeping, and good customer service skills should have the best opportunities.

### Sources of Additional Information

Information on employment opportunities for gaming cage workers is available from local offices of the State employment service.

(See the introductory statement on financial clerks for information on working conditions, training requirements, and earnings.)

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## Payroll and Timekeeping Clerks

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(O\*NET 43-3051.00)

### Nature of the Work

Payroll and timekeeping clerks perform a vital function—ensuring that employees are paid on time and that their paychecks are accurate. If inaccuracies arise, such as monetary errors or incorrect amounts of vacation time, these workers research and correct the records. In addition, they may also perform various other clerical tasks. Automated timekeeping systems that allow employees to directly enter their hours worked into a computer have eliminated much of the data entry and review by timekeepers and has elevated the job of payroll clerk. But in offices that have not automated this function, payroll and timekeeping clerks still perform many of the following functions.

The fundamental task of *timekeeping clerks* is distributing and collecting timecards each pay period. They review employee workcharts, timesheets, and timecards to ensure that information is properly recorded and that records have the signatures of authorizing officials. In companies that bill for the time spent by staff, such as law or accounting firms, timekeeping clerks make sure the hours



*Payroll clerks review computer listings for payroll errors.*

recorded are charged to the correct job, so clients can be properly billed. These clerks also review computer reports listing timecards that cannot be processed because of errors, and they contact the employee or the employee's supervisor to resolve the problem. In addition, timekeeping clerks are responsible for informing managers and other employees of procedural changes in payroll policies.

*Payroll clerks*, also called payroll technicians, screen timecards for calculating, coding, or other errors. They compute pay by subtracting allotments, including Federal and State taxes, retirement, insurance, and savings, from gross earnings. Increasingly, computers perform these calculations and alert payroll clerks to problems or errors in the data. In small organizations, or for new employees whose records are not yet entered into a computer system, clerks may perform the necessary calculations manually. In some small offices, clerks or other employees in the accounting department process payroll.

Payroll clerks record changes in employee addresses; close out files when workers retire, resign, or transfer; and advise employees on income tax withholding and other mandatory deductions. They also issue and record adjustments to pay because of previous errors or retroactive increases. Payroll clerks need to follow changes in tax and deduction laws, so they are aware of the most recent revisions. Finally, they prepare and mail earnings and tax withholding statements for employees' use in preparing income tax returns.

In small offices, payroll and timekeeping duties are likely to be included in the duties of a general office clerk, secretary, or accounting clerk. However, large organizations employ specialized payroll and timekeeping clerks to perform these functions. In offices that have automated timekeeping systems, payroll clerks perform more analysis of the data, look at trends, and work with computer systems. They also spend more time answering employee questions and processing unique data.

### **Employment**

Payroll and timekeeping clerks held about 201,000 jobs in 2000. They can be found in every industry, but a growing number work for personnel supply companies and for accounting firms, which are taking on payroll duties as an additional service. About 13 percent of all payroll and timekeeping clerks worked part time in 2000.

### **Job Outlook**

Little or no change is expected in the employment of payroll and timekeeping clerks through 2010, due to the continuing automation of payroll and timekeeping functions and the consolidation of clerical

jobs. A growing number of mergers and acquisitions also will adversely affect payroll departments as administrative offices are usually the first to be downsized. Nevertheless, a number of job openings should arise in coming years as payroll and timekeeping clerks leave the labor force or transfer to other occupations. Many payroll clerks use this position as a steppingstone to higher level accounting jobs.

As in many other clerical occupations, new technology will continue to allow many of the tasks formerly handled by payroll and timekeeping clerks to be partially or completely automated. For example, automated timeclocks, which calculate employee hours, allow large organizations to centralize their timekeeping duties in one location. At individual sites, employee hours are increasingly tracked by computer and verified by managers. This information is then compiled and sent to a central office to be processed by payroll clerks, eliminating the need to have payroll clerks at every site. In addition, the growing use of direct deposit eliminates the need to draft paychecks, because these funds are automatically transferred each pay period. Also, a growing number of organizations are allowing employees to automatically update their payroll records. Furthermore, payroll and timekeeping duties are increasingly being distributed to secretaries, general office clerks, or accounting clerks or are being contracted out to organizations that specialize in these services.

### **Sources of Additional Information**

Information on employment opportunities for payroll and timekeeping clerks is available from local offices of the State employment service.

(See the introductory statement on financial clerks for information on working conditions, training requirements, and earnings.)

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## **Procurement Clerks**

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(O\*NET 43-3061.00)

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### **Nature of the Work**

Procurement clerks compile requests for materials, prepare purchase orders, keep track of purchases and supplies, and handle inquiries about orders. Usually called *purchasing clerks*, or *purchasing technicians*, they perform a variety of tasks related to the ordering of goods and supplies for an organization and make sure that what was purchased arrives when scheduled and meets the purchaser's specifications.

Automation is having a profound effect on the occupation. Orders for goods can now be placed electronically when supplies are low. For example, computers integrated with cash registers at stores record purchases and automatically reorder goods when supplies reach a certain target level. However, automation is still years away for many firms and the role of the procurement clerk is unchanged in many organizations.

There is a wide range of tasks performed by procurement clerks and a wide range of responsibilities. Some clerks may act more like buyers, particularly at small to medium-sized companies, while others perform strictly clerical functions. In general, procurement clerks process requests for purchases. They first determine if there is any product left in inventory and may go through catalogs or to the Internet to find suppliers. They may prepare invitation-to-bid forms and mail them to suppliers or distribute them for public posting. Once suppliers are found, they may interview the suppliers to check on prices and specifications and put together spreadsheets with price comparisons and other facts about each supplier. Upon approval of a supplier, purchase orders are prepared, mailed, and recorded into





*Procurement clerks prepare purchase orders and make sure the shipment and the bills agree with the order.*

computers. Procurement clerks keep track of orders and determine the causes of any delays. If the supplier has questions, clerks try to answer them and resolve any problems. When the shipment arrives, procurement clerks may reconcile the purchase order with the shipment, making sure they match, notify the vendors when invoices not received, and make sure the bills concur with the purchase orders.

Some purchasing departments, particularly in small companies, are responsible for overseeing the organization's inventory control system. At these organizations, procurement clerks monitor in-house inventory movement and complete inventory transfer forms for book-keeping purposes. They may keep inventory spreadsheets and place orders when materials on hand are insufficient.

### **Employment**

In 2000, procurement clerks held about 76,000 jobs. Procurement clerks are found in every industry, including manufacturing, retail and wholesale trade, healthcare, and government.

### **Job Outlook**

Employment of procurement clerks is expected to decline through 2010 as a result of increasing automation. The need for procurement clerks will be reduced as the use of computers to place orders directly with suppliers—called electronic data interchange—and as ordering over the Internet—known as “e-procurement”—become more commonplace. In addition, procurement responsibilities are gradually being decentralized within organizations and are increasingly being performed in the originating departments by managers or by a designated employee. These departments may be issued procurement cards, which are similar to credit cards, that enable a department to charge purchases up to a specified amount.

Although employment in the occupation is expected to decline, job openings will occur for qualified individuals as workers transfer to other occupations or leave the labor force. Persons with good writing and communication skills, along with computer skills, will have the best opportunities for employment.

### **Sources of Additional Information**

Information on employment opportunities for procurement clerks is available from local offices of the State employment service.

(See the introductory statement on financial clerks for information on working conditions, training requirements, and earnings.)

## **Tellers**

(O\*NET 43-3071.00)

### **Nature of the Work**

The teller is the person most people associate with a bank. Tellers make up 25 percent of bank employees, and conduct most of a bank's routine transactions. Among their responsibilities are cashing checks, accepting deposits and loan payments, and processing withdrawals. They also may sell savings bonds, accept payment for customers' utility bills and charge cards, process necessary paperwork for certificates of deposit, and sell travelers' checks. Some tellers specialize in handling foreign currencies or commercial or business accounts.

Being a teller requires a great deal of attention to detail. Before cashing a check, a teller must verify the date, bank name, identification of the person to receive payment, and legality of the document. They also must make sure that written and numerical amounts agree and that the account has sufficient funds to cover the check. The teller then must carefully count cash to avoid errors. Sometimes a customer withdraws money in the form of a cashier's check, which the teller prepares and verifies. When accepting a deposit, tellers must check the accuracy of the deposit slip before processing the transaction.

Prior to starting their shift, tellers receive and count an amount of working cash for their drawer. A supervisor, usually the head teller, verifies this amount. Tellers use this cash for payments during the day and are responsible for its safe and accurate handling. Before leaving, tellers count cash on hand, list the currency-received tickets on a balance sheet, make sure the accounts balance, and sort checks and deposit slips. Over the course of a workday, tellers also may process numerous mail transactions. Some tellers replenish cash drawers and corroborate deposits and payments to automated teller machines (ATMs).

In most banks, head tellers are responsible for the teller line. They set work schedules, ensure that the proper procedures are adhered to, and act as a mentor to less experienced tellers. In addition, head tellers may perform the typical duties of a teller as needed and deal with the more difficult customer problems. They may access the vault, ensure the correct cash balance is in the vault, and oversee large cash transactions. Technology continues to play a large role in the job duties of all tellers. In most banks, for example,



*There will be fewer jobs for tellers as more people access funds electronically.*

tellers use computer terminals to record deposits and withdrawals. These terminals often give tellers quick access to detailed information on customer accounts. Tellers can use this information to tailor services to fit a customer's needs or to recommend an appropriate bank product or service.

As banks begin to offer more and increasingly complex financial services, tellers are being trained to identify potential sales opportunities. This requires them to learn about the various financial products and services the bank offers so they can briefly explain them to customers and refer interested customers to appropriate specialized sales personnel. In addition, tellers in many banks are being cross-trained to perform some of the functions of customer service representatives. (Customer service representatives are discussed separately in the *Handbook*.)

### Employment

Tellers held about 499,000 jobs in 2000; about 1 out of 4 worked part time. The overwhelming majority worked in commercial banks, savings institutions, or credit unions. The remainder were employed in a variety of other financial service companies.

### Job Outlook

Employment of tellers is expected to decline through 2010. Nevertheless, many job openings will arise from replacement needs because turnover is high—a characteristic typical of large occupations that normally require little formal education and offer relatively low pay.

The banking industry will continue to undergo many changes that will impact employment of traditional tellers, who perform only routine transactions. Principal among these are technology and changing employment needs. For example, ATMs and the increased use of direct deposit of paychecks and benefit checks have reduced the need for bank customers to interact with tellers for routine transactions. In addition, electronic banking is spreading rapidly throughout the banking industry. This type of banking, conducted over the telephone or the Internet, also will reduce the number of tellers over the long run.

Teller employment also is being impacted by the increasing use of 24-hour phone centers by many large banks. These telephone centers allow a customer to interact with a bank representative at a distant location, either by telephone or video terminal. Such centers usually are staffed by customer service representatives, who can handle a wider variety of transactions than tellers, including loan applications and credit card issuance.

Even though some banks have streamlined their branches, the total number of bank branches is expected to increase to meet the needs of a growing population. Branches are being added in nontraditional locations, such as grocery stores, malls, and mobile trailers designed to reach people who do not have easy access to banks. Often, these branches are open longer hours and offer greater customer convenience. Many of these nontraditional branch offices are small and are staffed by tellers who also have customer service training. As a result, tellers who can provide a variety of financial services will be in greater demand in the future.

### Sources of Additional Information

Information on employment opportunities for tellers is available from local offices of the State employment service.

(See the introductory statement on financial clerks for information on working conditions, training requirements, and earnings.)

## Information and Record Clerks

(O\*NET 43-4011.00, 43-4021.00, 43-4031.01, 43-4031.02, 43-4031.03, 43-4041.01, 43-4041.02, 43-4051.01, 43-4051.02, 43-4061.01, 43-4061.02, 43-4071.00, 43-4081.00, 43-4111.00, 43-4121.00, 43-4131.00, 43-4141.00, 43-4151.00, 43-4161.00, 43-4171.00, 43-4181.01, 43-4181.02)

### Significant Points

- Numerous job openings should arise for most types of information and record clerks due to employment growth and the need to replace workers who leave these occupations.
- A high school diploma or its equivalent is the most common educational requirement.
- Because many information and record clerks deal directly with the public, a professional appearance and pleasant personality are imperative.

### Nature of the Work

Information and record clerks are found in nearly every industry in the Nation, gathering data and providing information to the public. The specific duties of these clerks vary as widely as the job titles they hold.

Although their day-to-day duties vary widely, most information clerks greet customers, guests, or other visitors. Many also answer telephones and either obtain information from or provide information to the public. Most information clerks use multiline telephones, fax machines, and personal computers. *Hotel, motel, and resort desk clerks*, for example, are a guest's first contact for check-in, check-out, and other services within hotels, motels, and resorts. *Interviewers, except eligibility and loan*, found most often in medical facilities, research firms, and financial institutions, assist the public in completing forms, applications, or questionnaires. *Eligibility interviewers, government programs* determine eligibility of individuals applying to receive assistance. *Receptionists and information clerks* often are a visitor's or caller's first contact within an organization, providing information and routing calls. *Reservation and transportation ticket agents and travel clerks* assist the public in making travel plans, reservations, and purchasing tickets for a variety of transportation services.

*Court, municipal, and license clerks* perform administrative duties in courts of law, municipalities, and governmental licensing agencies and bureaus. Court clerks prepare the docket of cases to be called, secure information for judges, and contact witnesses, attorneys, and litigants to obtain information for the court. Municipal clerks prepare draft agendas or bylaws for town or city councils, answer official correspondence, and keep fiscal records and accounts. License clerks issue licenses or permits, record data, administer tests, and collect fees.

*New account clerks* interview individuals desiring to open bank accounts. Their principal tasks include handling customer inquiries, explaining the institution's products and services to people, and referring customers to the appropriate sales personnel. If a customer wants to open a checking or savings account, or an IRA, the new account clerk will interview the customer and enter the required information into a computer for processing.

*Customer service representatives* interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.

Record clerks, on the other hand, maintain, update, and process a variety of records, ranging from payrolls to information on the

shipment of goods or bank statements. They ensure that other workers get paid on time, customers' questions are answered, and records are kept of all transactions.

Depending on their specific titles, these workers perform a wide variety of recordkeeping duties. *Brokerage clerks* prepare and maintain the records generated when stocks, bonds, and other types of investments are traded. *File clerks* store and retrieve various kinds of office information for use by staff members. *Human resources assistants, except payroll and timekeeping* maintain employee records. *Library assistants, clerical* assist library patrons. *Order clerks* process incoming orders for goods and services. *Correspondence clerks* reply to customers regarding damage claims, delinquent accounts, incorrect billings, complaints of unsatisfactory service, and requests for merchandise exchanges or returns. *Loan interviewers and clerks* and *credit authorizers, checkers, and clerks* review credit history and obtain the information needed to determine the creditworthiness of loan and credit card applications.

The duties of record clerks vary with the size of the firm. In a small business, a bookkeeping clerk may handle all financial records and transactions, as well as payroll and personnel duties. A large firm, on the other hand, may employ specialized accounting, payroll, and human resources clerks. In general, however, clerical staffs in firms of all sizes increasingly perform a broader variety of tasks than in the past. This is especially true for clerical occupations involving accounting work. As the growing use of computers enables bookkeeping, accounting, and auditing clerks to become more productive, these workers may assume billing, payroll, and timekeeping duties.

Another change in these occupations is the growing use of financial software to enter and manipulate data. Computer programs automatically perform calculations on data that were previously calculated manually. Computers also enable clerks to access data within files more quickly than the former method of reviewing stacks of paper. Nevertheless, most workers still keep backup paper records for research, auditing, and reference purposes. Despite the growing use of automation, interaction with the public and coworkers remains a basic part of the job for many records processing clerks.

### Working Conditions

Working conditions vary for different types of information and record clerks, but most clerks work in areas that are clean, well lit, and relatively quiet. This is especially true for information clerks who greet customers and visitors and usually work in highly visible areas that are furnished to make a good impression. Reservation agents and interviewing clerks who spend much of their day talking on the telephone, however, commonly work away from the public, often in large centralized reservation or phone centers. Because a number of agents or clerks may share the same workspace, it may be crowded and noisy. Interviewing clerks may conduct surveys on the street, in shopping malls, or go door to door.

Although most information and record clerks work a standard 40-hour week, about 1 out of 5 work part time. Some high school and college students work part time as information clerks, after school or during vacations. Some jobs—such as those in the transportation industry, hospitals, and hotels, in particular—may require working evenings, late night shifts, weekends, and holidays. This also is the case for a growing number of customer service representatives who work for large banks with call centers that are staffed around the clock. Interviewing clerks conducting surveys or other research may mainly work evenings or weekends. In general, employees with the least seniority tend to be assigned the less desirable shifts.

The work performed by information clerks may be repetitious and stressful. For example, many receptionists spend all day answering telephones while performing additional clerical or secretarial tasks.

Reservation agents and travel clerks work under stringent time constraints or have quotas on the number of calls answered or reservations made. Additional stress is caused by technology that enables management to electronically monitor use of computer systems, tape record telephone calls, or limit the time spent on each call.

The work of hotel, motel, and resort desk clerks and transportation ticket agents also can be stressful when trying to serve the needs of difficult or angry customers. When flights are canceled, reservations mishandled, or guests are dissatisfied, these clerks must bear the brunt of the customers' anger. Hotel desk clerks and ticket agents may be on their feet most of the time, and ticket agents may have to lift heavy baggage. In addition, prolonged exposure to a video display terminal may lead to eye strain for the many information clerks who work with computers.

### Employment

Information and record clerks held 5.1 million jobs in 2000. The following tabulation shows employment for the individual occupations.

Customer service representatives .....	1,946,000
Receptionists and information clerks .....	1,078,000
Order clerks .....	348,000
File clerks .....	288,000
Reservation and transportation ticket agents and travel clerks .....	191,000
Human resources assistants, except payroll and timekeeping ..	177,000
Hotel, motel, and resort desk clerks .....	177,000
Interviewers, except eligibility and loan .....	154,000
Loan interviewers and clerks .....	139,000
Eligibility interviewers, government programs .....	117,000
Court, municipal, and license clerks .....	105,000
Library assistants, clerical .....	98,000
New accounts clerks .....	87,000
Credit authorizers, checkers, and clerks .....	86,000
Brokerage clerks .....	70,000
Correspondence clerks .....	38,000

Although information and record clerks are found in a variety of industries, employment is concentrated in health services; finance, insurance, and real estate; transportation, communications, and utilities; and business services.

### Training, Other Qualifications, and Advancement

Although hiring requirements for information and record clerk jobs vary from industry to industry, a high school diploma or its equivalent is the most common educational requirement. Increasingly, familiarity or experience with computers and good interpersonal skills often are equally important to employers. Although many employers prefer to hire information and record clerks with a higher level of education, it is only required in a few of these clerical occupations. For example, brokerage firms usually seek college graduates for brokerage clerk jobs, and order clerks in high-technology firms often need to understand scientific and mechanical processes, which may require some college education. For customer service representatives, new account clerks, and airline reservation and ticket agent jobs, some college education may be preferred.

Many information clerks deal directly with the public, so a professional appearance and pleasant personality are important. A clear speaking voice and fluency in the English language also are essential because these employees frequently use the telephone or public address systems. Good spelling and computer literacy often are needed, particularly because most work involves considerable computer use. It also is increasingly helpful for those wishing to enter the lodging or travel industries to speak a foreign language fluently.

With the exception of airline reservation and transportation ticket agents, orientation and training for information clerks usually

takes place on the job. For example, orientation for hotel and motel desk clerks usually includes an explanation of the job duties and information about the establishment, such as room locations and available services. New employees learn job tasks through on-the-job training under the guidance of a supervisor or an experienced clerk. They often need additional training in how to use the computerized reservation, room assignment, and billing systems and equipment. Most clerks continue to receive instruction on new procedures and company policies after their initial training ends.

Receptionists usually receive on-the-job training which may include procedures for greeting visitors, operating telephone and computer systems, and distributing mail, fax, and parcel deliveries. Some employers look for applicants who already possess certain skills, such as prior computer and word processing experience, or previous formal education. Customer service representatives also receive on-the-job training, which includes instructions on how to operate telephone and computer systems. These workers must possess strong communication skills since they are constantly interacting with customers.

Most airline reservation and ticket agents learn their skills through formal company training programs. In a classroom setting, they learn company and industry policies, computer systems, and ticketing procedures. They also learn to use the airline's computer system to obtain information on schedules, seat availability, and fares; to reserve space for passengers; and to plan passenger itineraries. They also must become familiar with airport and airline code designations, regulations, and safety procedures, and may be tested on this knowledge. After completing classroom instruction, new agents work on the job with supervisors or experienced agents for a period. During this period, supervisors may monitor telephone conversations to improve the quality of customer service. Agents are expected to provide good service while limiting the time spent on each call without being discourteous to customers. In contrast to the airlines, automobile clubs, bus lines, and railroads tend to train their ticket agents or travel clerks on the job through short in-house classes that last several days.

Most banks prefer to hire college graduates for new account clerk positions. Nevertheless, many new account clerks without college degrees start out as bank tellers and are promoted by demonstrating excellent communication skills and motivation to learn new skills. If a new account clerk has not been a teller before, he or she often will receive such training and work for several months as a teller. In both cases, new account clerks undergo formal training regarding the bank's procedures, products, and services.

Record clerks often learn the skills they need in high schools, business schools, and community colleges. Business education programs offered by these institutions typically include courses in typing, word processing, shorthand, business communications, records management, and office systems and procedures. Specialized order clerks in technical positions obtain their training from technical institutes and 2- and 4-year colleges.

Some entry-level record clerks are college graduates with degrees in business, finance, or liberal arts. Although a degree rarely is required, many graduates accept entry-level clerical positions to get into a particular company or to enter a particular field. Some companies, such as brokerage and accounting firms, have a set plan of advancement that tracks college graduates from entry-level clerical jobs into managerial positions. Workers with college degrees are likely to start at higher salaries and advance more easily than those without degrees.

Once hired, record clerks usually receive on-the-job training. Under the guidance of a supervisor or other senior workers, new employees learn company procedures. Some formal classroom training also may be necessary, such as training in specific computer software.

Advancement for information and record clerks usually comes by transfer to a position with more responsibilities or by promotion to a supervisory position. Most companies fill office and administrative support supervisory and managerial positions by promoting individuals within their organization, so information clerks who acquire additional skills, experience, and training improve their advancement opportunities. Receptionists, interviewers, and new account clerks with word processing or other clerical skills may advance to a better paying job as a secretary or administrative assistant. Within the airline industry, a ticket agent may advance to lead worker on the shift.

Additional training is helpful in preparing information clerks for promotion. In the lodging industry, clerks can improve their chances for advancement by taking home or group study courses in lodging management, such as those sponsored by the Educational Institute of the American Hotel and Motel Association. In some industries—such as lodging, banking, insurance, or the airlines—workers commonly are promoted through the ranks. Information and record clerk positions offer good opportunities for qualified workers to get started in the business. In a number of industries, a college degree may be required for advancement to management ranks.

### **Job Outlook**

Overall employment of information and record clerks is expected grow about as fast as the average for all occupations through 2010. In addition to many openings occurring as businesses and organizations expand, numerous job openings for information and record clerks will result from the need to replace experienced workers who transfer to other occupations or leave the labor force. Replacement needs are expected to be significant in this large occupational group, as many young people work as clerks for a few years before switching to other, higher paying jobs. The occupation is well-suited to flexible work schedules, and many opportunities for part-time work will continue to be available, particularly as organizations attempt to cut labor costs by hiring more part-time or temporary workers.

The outlook for different types of information and record clerks is expected to vary in the coming decade. Customer service representatives are expected to grow faster than the average for all occupations, as they increasingly take over the duties of a variety of other workers. Economic growth and general business expansion are expected to stimulate faster than average growth among receptionists and information clerks. Hotel, motel, and resort desk clerks are expected to grow faster than the average, as the occupational composition of the lodging industry changes and services provided by these workers expand. Employment of interviewers, except eligibility and loan also is expected to grow faster than average, as these workers will benefit from rapid growth in the health services industry.

Library assistants and human resources assistants are expected to grow about as fast as average as these workers take on more responsibilities. Average employment growth also is projected for court, municipal, and license clerks as the number of court cases and demand for citizen services continues to increase. Reservation and transportation ticket agents and travel clerks also are expected to grow about as fast as average due to rising demand for travel services. Employment of correspondence clerks; credit authorizers, checkers, and clerks; file clerks; and new account clerks, on the other hand, is expected to grow more slowly than the average for all occupations due to automation and the consolidation of recordkeeping functions across all industries.

The remainder of the information and record clerks are expected to decline. Employment of eligibility interviewers will decline as government programs, such as welfare, continue to be reformed, reducing the need for these types of workers. Both brokerage clerks

and loan interviewers are expected to decline as online trading and other technological innovations continue to automate more of this type of work. And, employment of order clerks is expected to decline as advances in electronic commerce continue to increase the efficiency of transactions among businesses, consumers, and government.

### Earnings

Earnings vary widely by occupation and experience. Annual earnings ranged from less than \$12,370 for the lowest paid 10 percent of hotel clerks to over \$51,410 for the top 10 percent of brokerage clerks in 2000. Salaries of reservation and transportation ticket agents and travel clerks tend to be significantly higher than for other information and record clerks, while hotel, motel, and resort desk clerks tend to earn quite a bit less, as the following tabulation of median annual earnings shows.

Brokerage clerks .....	\$31,060
Eligibility interviewers, government programs .....	28,380
Human resources assistants, except payroll and timekeeping .....	28,340
Loan interviewers and clerks .....	26,410
Court, municipal, and license clerks .....	26,150
Customer service representatives .....	24,600
Credit authorizers, checkers, and clerks .....	24,570
Correspondence clerks .....	24,150
Order clerks .....	23,620
New accounts clerks .....	23,090
Reservation and transportation ticket agents and travel clerks ...	22,620
Interviewers, except eligibility and loan .....	20,840
Receptionists and information clerks .....	20,040
File clerks .....	18,700
Library assistants, clerical .....	17,980
Hotel, motel, and resort desk clerks .....	16,380

Earnings of hotel and motel desk clerks also vary considerably depending on the location, size, and type of establishment in which they work. For example, clerks at large luxury hotels and those located in metropolitan and resort areas generally pay clerks more than less exclusive or “budget” establishments and those located in less populated areas.

In early 2001, the Federal Government typically paid salaries ranging from \$18,667 to \$22,734 a year to beginning receptionists with a high school diploma or 6 months of experience. The average annual salary for all receptionists employed by the Federal Government was about \$24,477 in 2001.

In addition to their hourly wage, full-time information and record clerks who work evenings, nights, weekends, or holidays may receive shift differential pay. Some employers offer educational assistance to their employees. Reservation and transportation ticket agents and travel clerks receive free or reduced rate travel on their company’s carriers for themselves and their immediate family and, in some companies, for friends.

### Related Occupations

A number of other workers deal with the public, receive and provide information, or direct people to others who can assist them. Among these are dispatchers, security guards and gaming surveillance workers, tellers, and counter and rental clerks.

For more information on information and record clerks, see the statements on brokerage clerks; credit authorizers, checkers, and clerks; customer service representatives; file clerks; hotel, motel, and resort desk clerks; human resources assistants; interviewers; library assistants; order clerks; receptionists and information clerks; and reservation and transportation ticket agents and travel clerks following this statement.

## Brokerage Clerks

(O\*NET 43-4011.00)

### Nature of the Work

Brokerage clerks perform a number of different jobs with wide ranging responsibilities, but all involve computing and recording data on securities transactions. Brokerage clerks also may contact customers, take orders, and inform clients of changes to their accounts. Some of these jobs are more clerical and require only a high school diploma, while others are considered entry-level positions for which a bachelor’s degree is needed. Brokerage clerks, who work in the operations departments of securities firms, on trading floors, and in branch offices, also are called margin clerks, dividend clerks, transfer clerks, and broker’s assistants.

The broker’s assistant, also called sales assistant, is the most common type of brokerage clerk. These workers typically assist two brokers, for whom they take calls from clients, write up order tickets, process the paperwork for opening and closing accounts, record a client’s purchases and sales, and inform clients of changes in their accounts. All brokers’ assistants must be knowledgeable about investment products so that they can clearly communicate with clients. Those with a “Series 7” license can make recommendations to clients at the instruction of the broker. The Series 7 license is issued to securities and commodities sales representatives by the National Association of Securities Dealers and allows them to provide advice on securities to the public.



*Brokerage clerks record data on securities transactions.*

Brokerage clerks in the operations areas of securities firms perform many duties to facilitate the sale and purchase of stocks, bonds, commodities, and other kinds of investments. These clerks produce the necessary records of all transactions that occur in their area of the business. Job titles for many of these clerks depend upon the type of work they perform. Purchase-and-sale clerks, for example, match orders to buy with orders to sell. They balance and verify stock trades by comparing the records of the selling firm with those of the buying firm. Dividend clerks ensure timely payments of stock or cash dividends to clients of a particular brokerage firm. Transfer clerks execute customer requests for changes to security registration and examine stock certificates for adherence to banking regulations. Receive-and-deliver clerks facilitate the receipt and delivery of securities among firms and institutions. Margin clerks post to and monitor activity in customers' accounts to ensure that clients make payments and stay within legal boundaries concerning stock purchases.

Technology is changing the nature of many of these workers' jobs. A significant and growing number of brokerage clerks use custom-designed software programs to process transactions more quickly. Only a few customized accounts are still handled manually. Furthermore, the rapid expansion of online trading reduces the amount of paperwork because brokerage clerks are able to make trades electronically.

### Employment

Brokerage clerks held about 70,000 jobs in 2000. Most worked in firms that sell securities and commodities.

### Job Outlook

Employment of brokerage clerks is expected to decline through the year 2010, as technological advancements continue to automate many of their job duties. With people increasingly investing in securities, brokerage clerks will still be required to process larger volumes of transactions. And, some brokerage clerks will still be needed to update records, enter changes to customer's accounts, and verify securities transfers. However, due to the emergence of online trading and widespread automation in the securities and commodities industry, the demand for brokerage clerks in the coming decade will be limited. All job openings will stem from the need to replace clerks who transfer to other occupations or leave the labor force.

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

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## Credit Authorizers, Checkers, and Clerks

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(O\*NET 43-4041.01, 43-4041.02)

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### Nature of the Work

Credit authorizers, checkers, and clerks review credit history and obtain the information needed to determine the creditworthiness of individuals or businesses applying for credit. They spend much of their day on the telephone obtaining information from credit bureaus, employers, banks, credit institutions, and other sources to determine applicants' credit history and ability to pay back the charge.

Credit authorizers, checkers, and clerks process and authorize applications for credit, including credit cards. Although the distinctions among the three job titles are becoming less, some general



*Credit clerks typically handle the processing of credit applications.*

differences remain. *Credit clerks* typically handle the processing of credit applications by verifying the information on the application, calling applicants if additional data are needed, contacting credit bureaus for a credit rating, and obtaining any other information necessary to determine applicants' creditworthiness. If the clerk works in a department store or other establishment that offers instant credit, he or she enters applicant information into a computer at the point-of-sale. A credit rating will then be transmitted from a central office within seconds to indicate whether the application should be rejected or approved.

Some organizations have *credit checkers*, who investigate a person's or business's credit history and current credit standing prior to the issuance of a loan or line of credit. Credit checkers also may telephone or write to credit departments of businesses and service companies to obtain information about an applicant's credit standing. Credit reporting agencies and bureaus hire a number of checkers to secure, update, and verify information for credit reports. These workers often are called credit investigators or reporters.

*Credit authorizers* approve charges against customers' existing accounts. Most charges are approved automatically by computer. When accounts are past due, overextended, or invalid, or show a change of address, however, sales persons refer transactions to credit authorizers located in a central office. These authorizers evaluate the customers' computerized credit records and payment histories to quickly decide whether or not to approve new charges.

## Employment

Credit authorizers, checkers, and clerks held about 86,000 jobs in 2000. About 4 out of 10 were employed by commercial and savings banks, credit unions, mortgage banks, and personal and business credit institutions. Credit reporting and collection agencies and establishments in wholesale and retail trade also employ these clerks.

## Job Outlook

Slower-than-average employment growth for credit authorizers, checkers, and clerks is expected through 2010. Despite a projected increase in the number of credit applications, automation will allow fewer workers to process, check, and authorize applications than in the past.

Credit scoring is a major development that has improved the productivity of these workers, thus limiting employment growth. Companies and credit bureaus now can purchase software that quickly analyzes an applicant's creditworthiness and summarizes it into a "score." Credit issuers then can easily decide whether to accept or reject the application depending on the score, speeding up the authorization of loans or credit. Obtaining credit ratings also is much easier for credit checkers and authorizers, as businesses now have computer systems that are directly linked to credit bureaus that provide immediate access to a person's credit history.

The job outlook for credit authorizers, checkers, and clerks is sensitive to overall economic activity. A downturn in the economy or a rise in interest rates usually lead to a decline in demand for credit. Even in slow economic times, however, job openings will arise from the need to replace workers who leave the occupation for various reasons.

(See the introductory statement on information and record clerks for information on working conditions, training, requirements, and earnings).

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# Customer Service Representatives

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(O\*NET 43-4051.01, 43-4051.02)

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## Nature of the Work

Customer service representatives interact with customers to provide information in response to inquiries about products and services. They also handle and resolve customer's complaints. Some customer service representatives assist individuals interested in opening accounts for various utilities such as electricity and gas, or for communication services such as cable television and telephone. In many cases, they gather information by phone or in person. They receive orders for services to be installed, turned on, turned off, or changed. They may look into and resolve complaints about billings and service provided by phone, cable television, and utility companies. Customer service representatives also may explain how to use equipment and solve any equipment problems. Others explain to users how to navigate an Internet site.

Many customer service representatives use multiline telephones, fax machines, and personal computers. Because banks are highly automated, their customer service call centers route each call to the first available representative as quickly as possible. Insurance agencies, on the other hand, often use time-consuming searches for files and related paperwork in providing customer service.

Self-service Web sites and e-mail are providing more efficient and targeted customer service. Many companies are starting to transform conventional call centers, and e-mail has become a principal method through which to serve customers. The challenge of providing customer service via e-mail is having enough representatives to deal with the large volume of mail.



*Customer service representatives handle and resolve customers' complaints.*

## Employment

Customer service representatives held about 1.9 million jobs in 2000. Although they were found in all industries, about 1 in 4 customer service representatives worked in finance, insurance, and real estate. Telephone communications and cable television services also employed a large number of customer service representatives.

## Job Outlook

Overall employment of customer service representatives is expected to increase faster than the average for all occupations through the year 2010. In addition to many new openings occurring as businesses and organizations expand, numerous job openings will result from the need to replace experienced customer service representatives who transfer to other occupations or leave the labor force. Replacement needs are expected to be significant in this large occupation as many young people work as customer service representatives for a few years before switching to other, higher paying jobs. This occupation is well-suited to flexible work schedules, and many opportunities for part-time work will continue to be available, particularly as organizations attempt to cut labor costs by hiring more temporary workers.

Customer service is critical to the success of any organization that deals with customers. Strong customer service can build sales and visibility as companies try to distinguish themselves from competitors. Advances in technology, especially the increased use of the Internet and the expected growth in electronic commerce, should result in rapid employment growth among customer service representatives. Web sites, e-mail, and more recently, wireless communications, are proving more efficient because they provide targeted customer service. As more business is conducted over the Internet, more customer service representatives will be needed over the next decade to answer questions, provide assistance in navigating Web sites, make product recommendations, and quickly and efficiently respond to the growing volume of e-mail.

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

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# File Clerks

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(O\*NET 43-4071.00)

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## Nature of the Work

The amount of information generated by organizations continues to grow rapidly. File clerks classify, store, retrieve, and update this



information. In many small offices, they often have additional responsibilities, such as data entry, word processing, sorting mail, and operating copying or fax machines. They are employed across the Nation by organizations of all types.

File clerks, also called records, information, or record center clerks, examine incoming material and code it numerically, alphabetically, or by subject matter. They then store forms, letters, receipts, or reports in paper form or enter necessary information into other storage devices. Some clerks operate mechanized files that rotate to bring the needed records to them; others convert documents to films that are then stored on microforms, such as microfilm or microfiche. A growing number of file clerks use imaging systems that scan paper files or film and store the material on optical disks.

In order for records to be useful they must be up-to-date and accurate. File clerks ensure that new information is added to the files in a timely manner and may get rid of outdated file materials or transfer them to inactive storage. They also check files at regular intervals to make sure that all items are correctly sequenced and placed. Whenever records cannot be found, the file clerk attempts to locate the missing material. As an organization's needs for information change, file clerks also implement changes to the filing system established by supervisory personnel.

When records are requested, file clerks locate them and give them to the borrower. The record may be a sheet of paper stored in a file cabinet or an image on microform. In the first example, the clerk manually retrieves the document and hands or forwards it to

the borrower. In the latter example, the clerk retrieves the microform and displays it on a microform reader. If necessary, file clerks make copies of records and distribute them. In addition, they keep track of materials removed from the files to ensure that borrowed files are returned.

Increasingly, file clerks use computerized filing and retrieval systems. These systems use a variety of storage devices, such as a main-frame computer, CD-ROM, or floppy disk. To retrieve a document in these systems, the clerk enters the document's identification code, obtains the location, and pulls the document. Accessing files in a computer database is much quicker than locating and physically retrieving paper files. Even when files are stored electronically, however, backup paper or electronic copies usually are also kept.

### Employment

File clerks held about 288,000 jobs in 2000. Although file clerk jobs are found in nearly every sector of the economy, about 85 percent of these workers are employed in services, government, finance, insurance, and real estate. More than 1 out of every 7 is employed in temporary services firms, and about 1 out of 3 worked part time in 2000.

### Job Outlook

Employment of file clerks is expected to grow more slowly than the average for all occupations through 2010. Projected job growth stems from rising demand for file clerks to record and retrieve information in organizations across the economy. This growth will be slowed, however, by productivity gains stemming from office automation and the consolidation of clerical jobs. Nonetheless, job opportunities for file clerks should be plentiful because a large number of workers will be needed to replace workers who leave the occupation each year. Job turnover among file clerks reflects the lack of formal training requirements, limited advancement potential, and relatively low pay.

Job seekers who have typing and other secretarial skills and are familiar with a wide range of office machines, especially personal computers, should have the best job opportunities. File clerks should find many opportunities for temporary or part-time work, especially during peak business periods.

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

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## Hotel, Motel, and Resort Desk Clerks

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(O\*NET 43-4081.00)

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### Nature of the Work

Hotel, motel, and resort desk clerks perform a variety of services for guests of hotels, motels, and other lodging establishments. Regardless of the type of accommodation, most desk clerks have similar responsibilities. Primarily, they register arriving guests, assign rooms, and check out guests at the end of their stay. They also keep records of room assignments and other registration information on computers. When guests check out, they prepare and explain the charges, as well as process payments.

Front desk clerks always are in the public eye and, through their attitude and behavior, greatly influence the public's impressions of the establishment. When answering questions about services, check-out times, the local community, or other matters of public interest, clerks must be courteous and helpful. Should guests report problems with their rooms, clerks contact members of the housekeeping or maintenance staff to correct them.



*File clerks classify, store, and retrieve information.*



*Hotel and motel clerks register arriving guests.*

In some smaller hotels and motels, clerks may have a variety of additional responsibilities usually performed by specialized employees in larger establishments. In these places, the desk clerk often is responsible for all front office operations, information, and services. These clerks, for example, may perform the work of a bookkeeper, advance reservation agent, cashier, laundry attendant, and telephone switchboard operator.

### **Employment**

Hotel, motel, and resort desk clerks held about 177,000 jobs in 2000. This occupation is well-suited to flexible work schedules, as about 3 in 10 hotel clerks works part time. Because hotels and motels need to be staffed 24 hours a day, evening and weekend work is common.

### **Job Outlook**

Employment of hotel, motel, and resort desk clerks is expected to grow faster than the average for all occupations through 2010, as more hotels, motels, and other lodging establishments are built and occupancy rates rise. Job opportunities for hotel and motel desk clerks also will result from a need to replace workers, as thousands of workers transfer to other occupations that offer better pay and advancement opportunities or simply leave the work force altogether. Opportunities for part-time work should continue to be plentiful, as front desks often are staffed 24 hours a day, 7 days a week.

Employment of hotel and motel desk clerks should be affected by an increase in business and leisure travel. Shifts in travel preference away from long vacations and toward long weekends and other, more frequent, shorter trips also should increase demand as this trend increases the total number of nights spent in hotels. The expansion of budget and extended-stay hotels relative to larger, luxury establishments reflects a change in the composition of the hotel and motel industry. As employment shifts from luxury hotels to these extended-stay establishments offering larger rooms with kitchenettes and laundry services, the proportion of hotel desk clerks should increase in relation to staff such as waiters and waitresses and recreation workers. Desk clerks are able to handle more of the guest's needs in these establishments, answering the main switchboard, providing business services, and coordinating services like dry cleaning or grocery shopping.

New technologies automating check-in and check-out procedures now allow some guests to bypass the front desk in many larger establishments, reducing staffing needs. As some of the more traditional duties are automated, however, many desk clerks are assuming a wider range of responsibilities.

Employment of desk clerks is sensitive to cyclical swings in the economy. During recessions, vacation and business travel declines, and hotels and motels need fewer clerks. Similarly, desk clerk employment is affected by seasonal fluctuations in travel during high and low tourist seasons.

### **Sources of Additional Information**

Information on careers in the lodging industry, as well as information about professional development and training programs, may be obtained from:

► Educational Institute of the American Hotel and Lodging Association, 800 N. Magnolia Ave., Suite 1800, Orlando, FL 32803. Internet: <http://www.ei-ahma.org>

(See introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

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## **Human Resources Assistants, Except Payroll and Timekeeping**

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(O\*NET 43-4161.00)

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### **Nature of the Work**

Human resources assistants maintain the personnel records of an organization's employees. These records include information such as name, address, job title, and earnings, benefits such as health and life insurance, and tax withholding. On a daily basis, these assistants record and answer questions about employee absences and supervisory reports on job performance. When an employee receives a promotion or switches health insurance plans, the human resources assistant updates the appropriate form. Human resources assistants also may prepare reports for managers elsewhere within the organization. For example, they might compile a list of employees eligible for an award.

In smaller organizations, some human resources assistants perform a variety of other clerical duties. They answer telephone or letter inquiries from the public, send out announcements of job openings or job examinations, and issue application forms. When credit bureaus and finance companies request confirmation of a person's employment, the human resources assistant provides authorized information from the employee's personnel records. Payroll departments and insurance companies also may be contacted to verify changes to records.

Some human resources assistants also are involved in hiring. They screen job applicants to obtain information such as education and work experience; administer aptitude, personality, and interest tests; explain the organization's employment policies and refer qualified applicants to the employing official; and request references from present or past employers. Also, human resources assistants inform job applicants, by telephone or letter, of their acceptance or rejection for employment.

In some job settings, human resources assistants have specific job titles. For example, *assignment clerks* notify a firm's existing employees of position vacancies and identify and assign qualified applicants. They keep track of vacancies throughout the organization and complete and distribute vacancy advertisement forms. These clerks review applications in response to advertisements and verify information, using personnel records. After a selection is made, they notify all the applicants of their acceptance or rejection.

For another example, *identification clerks* are responsible for security matters at defense installations. They compile and record personal data about vendors, contractors, and civilian and military personnel and their dependents. Job duties include interviewing



*Human resources assistants maintain the personnel records of employees.*

applicants; corresponding with law enforcement authorities; and preparing badges, passes, and identification cards.

### **Employment**

Human resources assistants held about 177,000 jobs in 2000. Although these workers are found in most industries, about 1 in every 6 works for a government agency. Colleges and universities, hospitals, department stores, and banks also employ large numbers of human resources assistants.

### **Job Outlook**

Employment of human resources assistants is expected to grow about as fast as the average for all occupations through the year 2010, as assistants continue to take on more responsibilities. For example, workers conduct Internet research to locate resumes, must be able to scan resumes of job candidates quickly and efficiently, and must be increasingly sensitive to confidential information such as salaries and social security numbers. In a favorable job market, more emphasis is placed on human resources departments, thus increasing the demand for human resources assistants. However, even in economic downturns, there will be continuing demand for human resources assistants as human resources departments in all industries try to make their organizations more efficient by determining what type of employees to hire and strategically filling job openings. Human resources assistants may play an instrumental role in their organization's human resources policies. For example, they may talk to staffing firms and consulting firms and conduct other research, and then offer their ideas on issues such as whether to hire temporary contract workers or full-time staff.

Similar to other office and administrative support occupations, the growing use of computers in human resources departments means that a lot of data entry done by human resources assistants can be eliminated, as employees themselves enter the data and send it to the human resources office. This is most feasible in large organizations with multiple human resources offices and, to some extent, could limit job growth among human resources assistants.

In addition to job growth, replacement needs will account for many job openings for human resources assistants as they advance within the human resources department, take jobs unrelated to human resources administration, or leave the labor force.

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

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## **Interviewers**

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(O\*NET 43-4061.01, 43-4061.02, 43-4111.00, 43-4131.00)

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### **Nature of the Work**

Interviewers obtain information from individuals and business representatives who are opening bank accounts, trying to obtain loans, seeking admission to medical facilities, participating in consumer surveys, applying to receive aid from government programs, and providing data for various other purposes. By mail, telephone, or in person, these workers solicit and verify information, create files, and perform a number of other related tasks.

The specific duties and job titles of *interviewers*, *except eligibility and loan* depend upon the type of employer. In doctors' offices and other healthcare facilities, for example, *interviewing clerks* also are known as *admitting interviewers* or *patient representatives*. These workers obtain all preliminary information required for a patient's record or for his or her admission to a hospital, such as the patient's name, address, age, medical history, present medications, previous hospitalizations, religion, persons to notify in case of emergency, attending physician, and the party responsible for payment. In some cases, interviewing clerks may be required to verify that an individual is eligible for health benefits or to work out financing options for those who might need them.

Other duties of interviewers in healthcare include assigning patients to rooms and summoning escorts to take patients to their rooms; sometimes, interviewers may escort patients themselves. Using the facility's computer system, they schedule laboratory work, x-rays, and surgeries, and prepare admitting and discharge records and route them to appropriate departments. They also may bill patients, receive payments, and answer the telephone. In an outpatient or office setting, they schedule appointments, keep track of cancellations, and provide general information about care. In addition, the role of the admissions staff, particularly in hospitals, is expanding to include a wide range of patient services, from assisting patients with financial and medical questions to helping family members find hotel rooms.

Interviewing clerks who conduct market research surveys and polls for research firms have somewhat different responsibilities. These interviewers ask a series of prepared questions, record the responses, and forward the results to management. They may ask individuals questions about their occupation and earnings, political preferences, buying habits, customer satisfaction, or other aspects of their lives. Although most interviews are conducted over the telephone, some are conducted in focus groups or by randomly polling people in a public place. More recently, the Internet is being used to elicit people's opinions. Almost all interviewers use computers or similar devices to enter the responses to questions.

*Eligibility interviewers*, *government programs* determine the eligibility of individuals applying to receive assistance from government programs such as welfare, unemployment benefits, social security, and public housing. They gather the relevant personal and financial information on an applicant and, based on the rules and regulations of the particular government program, they grant, modify, deny, or terminate individuals' eligibility for the program in question. These interviewers also are involved in the detection of fraud committed by persons who try to obtain benefits although they are not eligible to receive them.

*Loan interviewers and clerks* review credit history and obtain the information needed to determine the creditworthiness of loan and credit card applicants. They spend much of their day on the phone obtaining credit information from credit bureaus, employers, banks, credit institutions, and other sources to determine applicants' credit history and ability to pay back the loan or charge.



*Interviewers solicit and verify information from individuals.*

*Loan clerks*, also called *loan processing clerks*, *loan closers*, or *loan service clerks*, assemble loan documents, process the paperwork associated with the loan, and ensure that all information is complete and verified. Mortgage loans are the primary type of loan handled by loan clerks, who also may have to order appraisals on the property, set up escrow accounts, and secure any additional information required to transfer the property.

The specific duties of loan clerks vary by specialty. Loan closers, for example, complete the loan process by gathering the proper documents for signature at the closing, including deeds of trust, property insurance papers, and title commitments. They set the time and place for the closing, make sure that all parties are present, and ensure that all conditions for settlement have been met. After settlement, the loan closer records all documents and submits the final loan package to the owner of the loan. Loan service clerks maintain the payment records once the loan is issued. These clerical workers process the paperwork for payment of fees to insurance companies and tax authorities, and also may record changes to client addresses and loan ownership. When necessary, they answer calls from customers with routine inquiries.

*Loan interviewers* have duties that are similar to those of loan clerks. They interview potential borrowers and help them fill out loan applications. Interviewers may then investigate the applicant's background and references, verify information on the application, and forward any findings, reports, or documents to the appraisal department. Finally, interviewers inform the applicant whether the loan has been accepted or denied.

### **Employment**

Interviewers held about 410,000 jobs in 2000. About 154,000 were interviewers, except eligibility and loan; 139,000 were loan interviewers and clerks; and 117,000 were eligibility interviewers, government programs. Almost 1 out of every 5 interviewers worked in health services, while most loan interviewers and clerks worked in financial institutions. Almost 3 out of every 10 interviewers worked part time.

### **Job Outlook**

Little or no change is expected in overall employment of interviewers through 2010. However, the projected change in employment varies by specialty. Most job openings should arise from the need to replace the numerous interviewers who leave the occupation or the labor force each year. Prospects for filling these openings will be best for applicants with a broad range of job skills, such as good customer service, math, and telephone skills. In

addition to full-time jobs, opportunities also should be available for part-time and temporary jobs.

The number of interviewers, except eligibility and loan, is projected to grow faster than average, reflecting growth in the health services industry. This industry will hire more admissions interviewers as healthcare facilities consolidate staff and expand the role of the admissions staff, and as an aging and growing population requires more visits to healthcare practitioners. In addition, increasing use of market research will create more jobs requiring interviewers to collect data. In the future, though, more market research is expected to be conducted over the Internet, thus reducing the need for telephone interviewers to make individual calls.

The number of loan interviewers and clerks is projected to decline, due to advances in technology that are making these workers more productive. Despite a projected increase in the number of loan applications, automation will allow fewer workers to process, check, and authorize applications than in the past. The effects of automation on employment will be moderated, however, by the many interpersonal aspects of the job. Mortgage loans, for example, require loan processors to personally verify financial data on the application, and loan closers are needed to assemble documents and prepare them for settlement. Employment also will be adversely affected by changes in the financial services industry. For example, significant consolidation has occurred among mortgage loan servicing companies. As a result, fewer mortgage banking companies are involved in loan servicing, making the function more efficient and reducing the need for loan servicing clerks.

The job outlook for loan interviewers and clerks is sensitive to overall economic activity. A downturn in the economy or a rise in the interest rates usually leads to a decline in the demand for loans, particularly mortgage loans, and can result in layoffs. Even in slow economic times, however, job openings will arise from the need to replace workers who leave the occupation for various reasons.

Like loan interviewers and clerks, employment of eligibility interviewers for government programs also is projected to decline, due to technology advances and the transformation of government aid programs that have taken place over the last decade. Automation should have a significant effect on these workers because, as with credit and loan ratings, eligibility for government aid programs can be determined instantaneously by entering information into a computer. The job outlook for eligibility interviewers, however, also is sensitive to overall economic activity; a severe slowdown in the economy will cause more people to apply for government aid programs, increasing demand for eligibility interviewers.

### **Sources of Additional Information**

State employment service offices can provide information about employment opportunities.

For specific information on a career as a loan processor or loan closer, contact:

► Mortgage Bankers Association of America, 1125 15th St. NW., Washington, DC 20005. Internet: <http://www.mbaa.org>

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

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## **Library Assistants, Clerical**

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(O\*NET 43-4121.00)

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### **Nature of the Work**

Library assistants organize library resources and make them available to users. They assist librarians and, in some cases, library technicians.



*Library assistants check out books to library patrons.*

Library assistants, clerical—sometimes referred to as library media assistants, library aides, or circulation assistants—register patrons so they can borrow materials from the library. They record the borrower's name and address from an application and then issue a library card. Most library assistants enter and update patrons' records using computer databases.

At the circulation desk, assistants lend and collect books, periodicals, video tapes, and other materials. When an item is borrowed, assistants stamp the due date on the material and record the patron's identification from his or her library card. They inspect returned materials for damage, check due dates, and compute fines for overdue material. Library assistants review records to compile a list of overdue materials and send out notices. They also answer patrons' questions and refer those they cannot answer to a librarian.

Throughout the library, assistants sort returned books, periodicals, and other items and return them to their designated shelves, files, or storage areas. They locate materials to be loaned, either for a patron or another library. Many card catalogues are computerized, so library assistants must be familiar with the computer system. If any materials have been damaged, these workers try to repair them. For example, they use tape or paste to repair torn pages or book covers and other specialized processes to repair more valuable materials.

Some library assistants specialize in helping patrons who have vision problems. Sometimes referred to as library, talking-books, or braille-and-talking-books clerks, they review the borrower's list of desired reading material. They locate those materials or closely related substitutes from the library collection of large type or braille volumes, tape cassettes, and open-reel talking books. They complete the paperwork and give or mail them to the borrower.

### **Employment**

Library assistants held about 98,000 jobs in 2000. More than one-half of these workers were employed by local government in public libraries; most of the remaining worked in school libraries. Opportunities for flexible schedules are abundant; more than one-half of these workers were on part-time schedules.

### **Job Outlook**

Opportunities should be good for persons interested in jobs as library assistants through 2010. Turnover of these workers is quite high, reflecting the limited investment in training and subsequent weak attachment to this occupation. This work is attractive to retirees, students, and others who want a part-time schedule, and there

is a lot of movement into and out of the occupation. Many openings will become available each year to replace workers who transfer to another occupation or leave the labor force. Some positions become available as library assistants move within the organization. Library assistants can be promoted to library technicians, and eventually supervisory positions in public service or technical service areas. Advancement opportunities are greater in larger libraries and may be more limited in smaller ones.

Employment is expected to grow about as fast as the average for all occupations through 2010. The vast majority of library assistants work in public or school libraries. Efforts to contain costs in local governments and academic institutions of all types may result in more hiring of library support staff than librarians. Also, due to changing roles within libraries, library assistants are taking on more responsibility. Because most are employed by public institutions, library assistants are not directly affected by the ups and downs of the business cycle. Some of these workers may lose their jobs, however, if there are cuts in government budgets.

### **Sources of Additional Information**

Information about a career as a library assistant can be obtained from:

- Council on Library/Media Technology, P.O. Box 951, Oxon Hill, MD 20750. Internet: <http://library.ucr.edu/COLT>
- American Library Association, 50 East Huron St., Chicago, IL 60611. Internet: <http://www.ala.org/hrdr>

Public libraries and libraries in academic institutions can provide information about job openings for library assistants.

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

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## **Order Clerks**

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(O\*NET 43-4151.00)

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### **Nature of the Work**

Order clerks receive and process incoming orders for a wide variety of goods or services, such as spare parts for machines, consumer appliances, gas and electric power connections, film rentals, and articles of clothing. They sometimes are called order-entry clerks, sales representatives, order processors, or order takers.

Orders for materials, merchandise, or services can come from inside or from outside of an organization. In large companies with many worksites, such as automobile manufacturers, clerks order parts and equipment from the company's warehouses. Inside order clerks receive orders from other workers employed by the same company or from salespersons in the field.

Many other order clerks, however, receive orders from outside companies or individuals. Order clerks in wholesale businesses, for instance, receive orders from retail establishments for merchandise that the retailer, in turn, sells to the public. An increasing number of order clerks work for catalogue companies and online retailers, receiving orders from individual customers by telephone, fax, regular mail, or e-mail. Order clerks dealing primarily with the public sometimes are referred to as outside order clerks.

Computers provide order clerks with ready access to information such as stock numbers, prices, and inventory. The successful filling of an order frequently depends on having the right products in stock and being able to determine which products are most appropriate for the customer's needs. Some order clerks, especially those in industrial settings, must be able to give price estimates for entire jobs, not just single parts. Others must be able to take special orders, give expected arrival dates, prepare contracts, and handle complaints.



*More than half of all order clerks are employed in wholesale and retail establishments.*

Many order clerks receive orders directly by telephone, entering the required information as the customer places the order. However, a rapidly increasing number of orders now are received through computer systems, the Internet, faxes, and e-mail. In some cases, these orders are sent directly from the customer's terminal to the order clerk's terminal. Orders received by regular mail are sometimes scanned into a database that is instantly accessible to clerks.

Clerks review orders for completeness and clarity. They may complete missing information or contact the customer for the information. Similarly, clerks contact customers if the customers need additional information, such as prices or shipping dates, or if delays in filling the order are anticipated. For orders received by regular mail, clerks extract checks or money orders, sort them, and send them for processing.

After an order has been verified and entered, the customer's final cost is calculated. The clerk then routes the order to the proper department—such as the warehouse—that actually sends out or delivers the item in question.

In organizations with sophisticated computer systems, inventory records are adjusted automatically, as sales are made. In less automated organizations, order clerks may adjust inventory records. Clerks also may notify other departments when inventories are low or when filling certain orders would deplete supplies.

Some order clerks must establish priorities in filling orders. For example, an order clerk in a blood bank may receive a request from a hospital for a certain type of blood. The clerk must first find out if the request is routine or an emergency, and then take appropriate action.

### **Employment**

Order clerks held about 348,000 jobs in 2000. About one-half were in wholesale and retail establishments and about one-fifth were in manufacturing firms. Most of the remaining jobs for order clerks were in business services.

### **Job Outlook**

Job openings for order clerks should be limited, as improvements in technology and office automation continue to increase worker productivity. While overall employment of order clerks is expected to decline through the year 2010, numerous openings will become available each year to replace order clerks who transfer to other occupations or leave the labor force completely. Many of these openings will be for seasonal work, especially in catalogue companies or online retailers catering to holiday gift buyers.

The growth in online retailing, business-to-business electronic commerce, and the use of automated systems that make placing orders easy and convenient will decrease demand for order clerks. The spread of electronic data interchange, a system enabling computers to communicate directly with each other, allows orders within establishments to be placed with little human intervention. Besides electronic data interchange, extranets and other internal systems allowing a firm's employees to place orders directly are increasingly common. Outside orders placed over the Internet often are entered directly into the computer by the customer; thus, the order clerk is not involved at all in placing the order. Some companies also use automated phone menus accessible with a touch-tone phone to receive orders, and others use answering machines. Developments in voice recognition technology may further reduce the demand for order clerks.

Furthermore, increased automation will allow current order clerks to be more productive, as each clerk is able to handle an increasingly higher volume of orders. Sophisticated inventory control and automatic billing systems permit companies to track inventory and accounts with much less help from order clerks than in the past.

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

## **Receptionists and Information Clerks**

(O\*NET 43-4171.00)

### **Nature of the Work**

Receptionists and information clerks are charged with a responsibility that may have a lasting impact on the success of an organization—making a good first impression. These workers often are the first representatives of an organization a visitor encounters, so they need to be courteous, professional, and helpful. Receptionists answer telephones, route calls, greet visitors, respond to inquiries from the public and provide information about the organization. In addition, receptionists contribute to the security of an organization by helping to monitor the access of visitors.

Whereas some tasks are common to most receptionists and information clerks, the specific responsibilities of receptionists vary depending upon the type of establishment in which they work. For



*Receptionists answer and route telephone calls, greet visitors, and provide information to the public.*

example, receptionists in hospitals and doctors' offices may gather personal and financial information and direct patients to the proper waiting rooms. In beauty or hair salons, however, they arrange appointments, direct customers to the hairstylist, and may serve as cashier. In factories, large corporations, and government offices, they may provide identification cards and arrange for escorts to take visitors to the proper office. Those working for bus and train companies respond to inquiries about departures, arrivals, stops, and other related matters.

Increasingly, receptionists use multiline telephone systems, personal computers, and fax machines. Despite the widespread use of automated answering systems or voice mail, many receptionists still take messages and inform other employees of visitors' arrivals or cancellation of an appointment. When they are not busy with callers, most receptionists are expected to perform a variety of office duties including opening and sorting mail, collecting and distributing parcels, making fax transmittals and deliveries, updating appointment calendars, preparing travel vouchers, and performing basic bookkeeping, word processing, and filing.

### Employment

Receptionists and information clerks held about 1.1 million jobs in 2000. Almost two-thirds worked in services industries, and a little less than half of these were employed in the health services industry in doctors' and dentists' offices, hospitals, nursing homes, urgent care centers, surgical centers, and clinics. Manufacturing, wholesale and retail trade, government, and real estate industries also employed large numbers of receptionists and information clerks. About 3 of every 10 receptionists and information clerks worked part time.

### Job Outlook

Employment of receptionists and information clerks is expected to grow faster than the average for all occupations through 2010. This increase will result from rapid growth in services industries—including physician's offices, law firms, temporary help agencies, and consulting firms—where most are employed. In addition, turnover in this large occupation will create numerous openings as receptionists and information clerks transfer to other occupations or leave the labor force altogether. Opportunities should be best for experienced persons with a wide range of clerical and technical skills.

Technology should have conflicting effects on the demand for receptionists and information clerks. The increasing use of voice mail and other telephone automation reduces the need for receptionists by allowing one receptionist to perform work that formerly required several receptionists. However, increasing use of technology also has caused a consolidation of clerical responsibilities and growing demand for workers with diverse clerical and technical skills. Because receptionists and information clerks may perform a wide variety of clerical tasks, they should continue to be in demand. Further, they perform many tasks that are of an interpersonal nature and are not easily automated, ensuring continued demand for their services in a variety of establishments.

### Sources of Additional Information

State employment offices can provide information on job openings for receptionists.

(See introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

## Reservation and Transportation Ticket Agents and Travel Clerks

(O\*NET 43-4181.01, 43-4181.02)

### Nature of the Work

Each year, millions of Americans travel by plane, train, ship, bus, and automobile. Many of these travelers rely on the services of reservation and transportation ticket agents and travel clerks. These ticket agents and clerks perform functions as varied as selling tickets, confirming reservations, checking baggage, and providing tourists with useful travel information.

Most *reservation agents* work for large hotel chains or airlines, helping people plan trips and make reservations. They usually work in large reservation centers answering telephone or e-mail inquiries and offering suggestions on travel arrangements, such as routes, time schedules, rates, and types of accommodation. Reservation agents quote fares and room rates, provide travel information, and make and confirm transportation and hotel reservations. Most agents use proprietary networks to quickly obtain information needed to make, change, or cancel reservations for customers.

*Transportation ticket agents* are sometimes known as passenger service agents, passenger-booking clerks, reservation clerks, airport service agents, ticket clerks, or ticket sellers. They work in airports, train, and bus stations selling tickets, assigning seats to passengers, and checking baggage. In addition, they may answer inquiries and give directions, examine passports and visas, or check in pets. Other ticket agents, more commonly known as *gate* or *station agents*, work in airport terminals assisting passengers boarding airplanes. These workers direct passengers to the correct boarding area, check tickets and seat assignments, make boarding announcements, and provide special assistance to young, elderly, or disabled passengers when they board or disembark.

Most *travel clerks* are employed by membership organizations, such as automobile clubs. These workers, sometimes called *member services counselors* or *travel counselors*, plan trips, calculate mileage, and offer travel suggestions, such as the best route from the point of origin to the destination, for club members. Travel clerks also may prepare an itinerary indicating points of interest, restaurants, overnight accommodations, and availability of emergency services during the trip. In some cases, they make rental car, hotel, and restaurant reservations for club members.



*Ticket agents sell tickets, assign seats to passengers, and check baggage.*



*Passenger rate clerks* generally work for bus companies. They sell tickets for regular bus routes and arrange nonscheduled or chartered trips. They plan travel routes, compute rates, and keep customers informed of appropriate details. They also may arrange travel accommodations.

### Employment

Reservation and transportation ticket agents and travel clerks held about 191,000 jobs in 2000. More than 6 of every 10 are employed by airlines. Others work for membership organizations, such as automobile clubs; hotels and other lodging places; railroad companies; bus lines; and other companies that provide transportation services.

Although agents and clerks are found throughout the country, most work in large metropolitan airports, downtown ticket offices, large reservation centers, and train or bus stations. The remainder work in small communities served only by intercity bus or railroad lines.

### Job Outlook

Applicants for reservation and transportation ticket agent jobs are likely to encounter considerable competition, because the supply of qualified applicants exceeds the expected number of job openings. Entry requirements for these jobs are minimal, and many people seeking to get into the airline industry or travel business often start out in these types of positions. These jobs provide excellent travel benefits, and many people view airline and other travel-related jobs as glamorous.

Employment of reservation and transportation ticket agents and travel clerks is expected to grow about as fast as the average for all occupations through 2010. Although a growing population will demand additional travel services, employment of these workers will grow more slowly than this demand, because of the significant impact of technology on productivity. Automated reservations and ticketing, as well as "ticketless" travel, for example, are reducing the need for some workers. Most train stations and airports now have satellite ticket printer locations, or "kiosks," that enable passengers to make reservations and purchase tickets themselves. Many passengers also are able to check flight times and fares, make reservations, and purchase tickets on the Internet. Nevertheless, all travel-related passenger services can never be fully automated, primarily for safety and security reasons. As a result, job openings will continue to become available as the occupation grows and as workers transfer to other occupations, retire, or leave the labor force altogether.

Employment of reservation and transportation ticket agents and travel clerks is sensitive to cyclical swings in the economy. During recessions, discretionary passenger travel declines, and transportation service companies are less likely to hire new workers and even may resort to layoffs.

### Sources of Additional Information

For information about job opportunities as reservation and transportation ticket agents and travel clerks, write the personnel manager of individual transportation companies. Addresses of airlines are available from:

► Air Transport Association of America, 1301 Pennsylvania Ave. NW, Suite 1100, Washington, DC 20004-1707.

(See the introductory statement on information and record clerks for information on working conditions, training requirements, and earnings.)

## Material Recording, Scheduling, Dispatching, and Distributing Occupations, Except Postal Workers

(O\*NET 43-5011.00, 43-5021.00, 43-5031.00, 43-5032.00, 43-5041.00, 43-5061.00, 43-5071.00, 43-5081.01, 43-5081.02, 43-5081.03, 43-5081.04, 43-5111.00)

### Significant Points

- Many of these occupations are entry level and do not require more than a high school diploma.
- Workers develop the necessary skills through on-the-job training lasting from several days to a few months; dispatchers usually require the most extensive training.
- Numerous job openings will arise each year from the need to replace workers who leave this very large occupational group.

### Nature of the Work

Workers in this group are responsible for a variety of communications, recordkeeping, and scheduling operations. Typically, they coordinate, expedite, and track orders for personnel, materials, and equipment. *Cargo and freight agents* route and track cargo and freight shipments, whether from airline, train, or truck terminals, or shipping docks. They keep records of any missing or damaged items and any excess supplies. The agents sort cargo according to its destination and separate any items that cannot be packed together. They also coordinate payment schedules with customers and arrange for the pickup or delivery of freight.

*Couriers and messengers* deliver letters, important business documents, or packages within a firm, to other businesses, or to customers. They usually keep records of deliveries and sometimes obtain the recipient's signature. Couriers and messengers travel by car, van, bicycle, or even by foot when making nearby deliveries.

*Dispatchers* receive requests for service and initiate action to provide that service. Duties vary, depending on the needs of the employer. Police, fire, and ambulance dispatchers, also called public safety dispatchers, handle calls from people reporting crimes, fires, and medical emergencies. Truck, bus, and train dispatchers schedule and coordinate the movement of these vehicles to ensure that they arrive on schedule. Taxicab dispatchers relay requests for cabs to individual drivers, tow truck dispatchers take calls for emergency road service, and utility company dispatchers handle calls related to utility and telephone service. Courier and messenger service dispatchers route drivers, riders, and walkers around a usually urban area. They distribute work by radio, email, or phone, making sure that service deadlines are met.

*Meter readers* read meters and record consumption of electricity, gas, water, or steam. They serve a variety of consumers and travel along designated routes to track consumption. Although many meters still are read at the house or building, many newer meters can be read remotely from a central point. Meter readers also look for evidence of unauthorized utility usage.

*Production, planning, and expediting clerks* coordinate and expedite the flow of information, work, and materials, usually according to a production or work schedule. They gather information for reports on work progress and production problems. They also may schedule workers or parts shipments, estimate costs, and keep inventories of materials.

*Shipping, receiving, and traffic clerks* track all incoming and outgoing shipments of goods transferred between businesses,

suppliers, and customers. These clerks may be required to lift cartons of various sizes. Shipping clerks assemble, address, stamp, and ship merchandise or materials. Receiving clerks unpack, verify, and record incoming merchandise. Traffic clerks record the destination, weight, and cost of all incoming and outgoing shipments. In a small company, one clerk may perform all of these tasks.

*Stock clerks and order fillers* receive, unpack, and store materials and equipment, and maintain and distribute inventories. Inventories may include merchandise in wholesale and retail establishments, or equipment, supplies, or materials in other kinds of organizations. In small firms, stock clerks and order fillers may perform all of the above tasks, as well as those usually handled by shipping and receiving clerks. In large establishments, they may be responsible for only one task.

*Weighers, measurers, checkers, and samplers* check and record the weight and measurement of various materials and equipment. They use scales, measuring and counting devices, and calculators to compare the weight, measurements, or other specifications against bills or invoices. They also prepare reports on inventory levels.

(This introductory section is followed by sections that provide more detail on cargo and freight agents; couriers and messengers; dispatchers; utility meter readers; production, planning, and expediting clerks; shipping, receiving, and traffic clerks; stock clerks and order fillers; and weighers, measurers, checkers, and samplers.)

## Working Conditions

Working conditions vary considerably by occupation and employment setting. Couriers and messengers spend most of their time alone making deliveries and usually are not closely supervised. Those who deliver by bicycle must be physically fit and are exposed to all weather conditions, as well as to the many hazards associated with heavy traffic. Car, van, and truck couriers must sometimes carry heavy loads, either manually or with the aid of a handtruck. They also have to deal with difficult parking situations as well as traffic jams and road construction. The pressure of making as many deliveries as possible to increase earnings can be stressful and may lead to unsafe driving or bicycling practices.

Meter readers, usually working 40 hours a week, work outdoors in all types of weather as they travel through communities and neighborhoods taking readings.

The work of dispatchers can be very hectic when many calls come in at the same time. The job of public safety dispatcher is particularly stressful because slow or improper response to a call can result in serious injury or further harm. Also, callers who are anxious or afraid may become excited and be unable to provide needed information; some may even become abusive. Despite provocations, dispatchers must remain calm, objective, and in control of the situation.

Dispatchers sit for long periods, using telephones, computers, and two-way radios. Much of their time is spent at video display terminals, viewing monitors and observing traffic patterns. As a result of working for long stretches with computers and other electronic equipment, dispatchers can experience significant eyestrain and back discomfort. Generally, dispatchers work a 40-hour week; however, rotating shifts and compressed work schedules are common. Alternative work schedules are necessary to accommodate evening, weekend, and holiday work, as well as 24-hour-per-day, 7-day-per-week operations.

Other workers in this group—cargo and freight agents; shipping, receiving, and traffic clerks; stock clerks and order fillers; production, planning, and expediting clerks; and weighers, measurers, checkers, and samplers—work in a wide variety of businesses, institutions, and industries. Some work in warehouses, stockrooms, or shipping and receiving rooms that may not be temperature

controlled. Others may spend time in cold storage rooms or outside on loading platforms, where they are exposed to the weather.

Production, planning, and expediting clerks work closely with supervisors who must approve production and work schedules. Most jobs for shipping, receiving, and traffic clerks, stock clerks and order fillers, and cargo and freight agents involve frequent standing, bending, walking, and stretching. Some lifting and carrying of smaller items also may be involved. Although automation devices have lessened the physical demands of this occupation, their use remains somewhat limited. Work still can be strenuous, even though mechanical material handling equipment is employed to move heavy items.

The typical workweek is Monday through Friday; however, evening and weekend hours are common for some jobs, such as stock clerks and order fillers in retail trade and couriers and messengers, and may be required in other jobs when large shipments are involved or when inventory is taken.

## Employment

In 2000, material recording, scheduling, dispatching, and distributing workers held about 3.5 million jobs. Employment was distributed among the detailed occupations as follows:

Stock clerks and order fillers .....	1,679,000
Shipping, receiving, and traffic clerks .....	890,000
Production, planning, and expediting clerks .....	332,000
Dispatchers .....	254,000
Couriers and messengers .....	141,000
Weighers, measurers, checkers, and samplers, recordkeeping ...	83,000
Cargo and freight agents .....	60,000
Meter readers, utilities .....	49,000
All other material recording, scheduling, dispatching, and distributing workers .....	63,000

About two thirds of material recording, scheduling, dispatching, and distributing jobs were in services or wholesale and retail trade. Although these workers are found throughout the country, most work near population centers where retail stores, warehouses, factories, and large communications centers are concentrated.

## Training, Other Qualifications, and Advancement

Many material recording, scheduling, dispatching, and distributing occupations are entry level and do not require more than a high school diploma. Employers, however, prefer to hire those familiar with computers and other electronic office and business equipment. Those who have taken business courses or have previous business, dispatching, or specific job-related experience may be preferred. Because communication with other people is an integral part of some material recording, scheduling, dispatching, and distributing jobs, good oral and written communications skills are essential. Typing, filing, recordkeeping, and other clerical skills also are important.

State or local government civil service regulations usually govern police, fire, emergency medical, and ambulance dispatching jobs. Candidates for these positions may have to pass written, oral, and performance tests. Also, they may be asked to attend training classes and attain the proper certification in order to qualify for advancement.

Trainees usually develop the necessary skills on the job. This informal training lasts from several days to a few months, depending on the complexity of the job. Dispatchers usually require the most extensive training. Working with an experienced dispatcher, they monitor calls and learn how to operate a variety of communications equipment, including telephones, radios, and various wireless devices. As trainees gain confidence, they begin to handle calls themselves. In smaller operations, dispatchers sometimes act as

customer service representatives, processing orders themselves. Many public safety dispatchers also participate in structured training programs sponsored by their employer. Some employers offer a course designed by the Association of Public Safety Communications Officials. This course covers topics such as interpersonal communications; overview of the police, fire, and rescue functions; modern public safety telecommunications systems; basic radio broadcasting; local, State, and national crime information computer systems; and telephone complaint/report processing procedures. Other employers develop in-house programs based on their own needs. Emergency medical dispatchers often receive special training or have special skills. Increasingly, public safety dispatchers receive training in stress and crisis management, as well as family counseling. Employers are recognizing the toll this work has on daily living and the potential impact that stress has on the job, on the work environment, and in the home.

Communications skills and the ability to work under pressure are important personal qualities for dispatchers. Residency in the city or county of employment frequently is required for public safety dispatchers. Dispatchers in transportation industries must be able to deal with sudden influxes of shipments and disruptions of shipping schedules caused by bad weather, road construction, or accidents.

Although there are no mandatory licensing or certification requirements, some States require that public safety dispatchers possess a certificate to work on a State network, such as the Police Information Network. The Association of Public Safety Communications Officials, the National Academy of Emergency Medical Dispatch, and the International Municipal Signal Association all offer certification programs. Many dispatchers participate in these programs in order to improve their prospects for career advancement.

Couriers and messengers usually learn on the job, training with a veteran for a short time. Those who work as independent contractors for a messenger or delivery service may be required to have a valid driver's license, a registered and inspected vehicle, a good driving record, and insurance coverage. Many couriers and messengers who are employees, rather than independent contractors, also are required to provide and maintain their own vehicle. Although some companies have spare bicycles or mopeds that their riders may rent for a short period, almost all two-wheeled couriers own their own bicycle, moped, or motorcycle. A good knowledge of the geographic area in which they travel, as well as a good sense of direction, also are important.

Utility meter readers usually shadow a more experienced meter reader until they feel comfortable doing the job on their own. They learn how to read the meters and determine the consumption rate. They also must learn the route that they need to travel in order to read all their customers' meters.

Production, planning, and expediting clerks; weighers, measurers, checkers, and samplers; stock clerks and order fillers; and shipping, receiving, and traffic clerks usually learn the job by doing routine tasks under close supervision. They learn how to count and mark stock, and then start keeping records and taking inventory. Strength, stamina, good eyesight, and an ability to work at repetitive tasks, sometimes under pressure, are important characteristics. Production, planning, and expediting clerks must learn how their company operates along with its priorities before they can begin to efficiently write production and work schedules. Stock clerks, whose sole responsibility is to bring merchandise to the sales floor to stock shelves and racks, need little training. Shipping, receiving, and traffic clerks and stock clerks and order fillers who handle jewelry, liquor, or drugs may be bonded.

Shipping, receiving, and traffic clerks, as well as cargo and freight agents, start out by checking items to be shipped and then attaching labels and making sure the addresses are correct. Training in the

use of automated equipment usually is done informally, on the job. As these occupations become more automated, however, workers in these jobs may need longer training in order to master the use of the equipment.

Advancement opportunities for material recording, scheduling, dispatching, and distributing workers vary with the place of employment. Dispatchers who work for private firms, which usually are small, will find few opportunities for advancement. Public safety dispatchers, on the other hand, may become a shift or divisional supervisor or chief of communications, or move to higher paying administrative jobs. Some become police officers or firefighters. Couriers and messengers, especially those who work for messenger or courier services, have limited advancement opportunities; a small fraction move into the office to learn dispatching or to take service requests by phone. In large firms, stock clerks can advance to invoice clerk, stock control clerk, or procurement clerk. Shipping, receiving, and traffic clerks are promoted to head clerk, and those with a broad understanding of shipping and receiving may enter a related field such as industrial traffic management. With additional training, some stock clerks and order fillers and shipping, receiving, and traffic clerks advance to jobs as warehouse manager or purchasing agent.

**Job Outlook**

Overall employment of material recording, scheduling, dispatching, and distributing workers is expected to grow about as fast as the average for all occupations through 2010. In addition, numerous job openings will arise each year from the need to replace workers who leave this very large occupational group.

Projected employment growth varies by detailed occupation. Meter readers will experience a decline in employment due to automated meter reading systems that greatly increase productivity. The use of e-mail and fax will contribute to a decline for couriers and messengers as well. New technologies will enable stock clerks and order fillers to handle more stock, resulting in slower-than-average employment growth. Employment of shipping, receiving, and traffic clerks and of cargo and freight agents also will grow more slowly than average due to the increasing use of automation that enables these workers to handle materials and shipments more efficiently and more accurately.

Employment of dispatchers; production, planning, and expediting clerks; and weighers, measurers, checkers, and samplers is projected to grow about as fast as the average for all occupations through 2010. Population growth, in addition to the expanded role of dispatchers stemming from advances in telecommunications, should boost employment levels. Employment of production, planning, and expediting clerks should benefit from more emphasis on efficiency in the production process, while the growing need for accurate inventory records spurs employment of weighers, measurers, checkers, and samplers.

**Earnings**

Earnings of material recording, scheduling, dispatching, and distributing occupations vary somewhat by occupation and industry. The range of median hourly earnings in 2000 are shown in the following tabulation:

Production, planning, and expediting clerks .....	\$14.71
Cargo and freight agents .....	13.73
Dispatchers .....	13.66
Meter readers, utilities .....	13.32
Weighers, measurers, checkers, and samplers, recordkeeping .....	11.36
Shipping, receiving, and traffic clerks .....	10.52
Couriers and messengers .....	8.96
Stock clerks and order fillers .....	8.75
All other material recording, scheduling, dispatching, and distributing workers .....	11.66

Workers in material recording, scheduling, dispatching, and distributing occupations usually receive the same benefits as most other workers. If uniforms are required, employers usually provide either the uniforms or an allowance to purchase them.

More information on cargo and freight agents; couriers and messengers; dispatchers; meter readers, utilities; production, planning, and expediting clerks; shipping, receiving, and traffic clerks; stock clerks and order fillers; and weighers, measurers, checkers, and samplers is available in statements on these occupations that follow this introduction.

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## Cargo and Freight Agents

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(O\*NET 43-5011.00)

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### Nature of the Work

Cargo and freight agents arrange for and track incoming and outgoing cargo and freight shipments in airline, train, or trucking terminals or on shipping docks. They expedite movement of shipments by determining the route that shipments are to take and preparing all necessary shipping documents. The agents take orders from customers and arrange for pickup of freight or cargo for delivery to loading platforms. They may keep records of the properties of the cargo, such as amount, type, weight, and dimensions. They keep a tally of missing items, record conditions of damaged items, and document any excess supplies.



*Cargo and freight agents keep records of the type, weight, and dimensions of cargo shipped.*

Cargo and freight agents arrange cargo according to its destination. They also determine the shipping rates and other charges that can sometimes apply to the freight. For imported or exported freight, they verify that the proper customs paperwork is in order. They often track shipments using electronic data, such as bar codes, and answer customer inquiries on the status of their shipments.

### Employment

Cargo and freight agents held about 60,000 jobs in 2000. Most jobs were in transportation. About 35 percent of cargo and freight agents worked in transportation services, 23 percent worked for air carriers, and 10 percent worked for local and long distance trucking establishments. Department stores employed 12 percent, while personnel supply services employed 3 percent.

### Job Outlook

Employment of cargo and freight agents is expected to grow more slowly than the average for all occupations through 2010. Although cargo traffic is expected to grow faster than it has in the past, employment of cargo and freight agents will not grow as rapidly because of technological advances. For example, the increasing use of bar codes on cargo and freight allows agents and customers to track these shipments quickly over the Internet, rather than manually tracking their location. In addition, customs and insurance paperwork now can be completed over the Internet by customers, reducing the need for cargo and freight agents.

Despite these advances in technology that dampen job growth among cargo and freight agents, job openings will continue to arise due to increases in buying over the Internet, which will result in more shipments, and the importance of same-day delivery, which expands the role of agents. In addition, many job openings will be created to replace cargo and freight agents who leave the occupation.

### Related Occupations

Cargo and freight agents plan and coordinate cargo shipments using airlines, trains, and trucks. They also arrange freight pickup with customers. Others who do similar work are couriers and messengers; shipping, receiving, and traffic clerks; weighers, measurers, checkers, and samplers; truckdrivers and driver/sales workers; and Postal Service workers.

### Sources of Additional Information

Information about job opportunities may be obtained from local employers and local offices of the State employment service.

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

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## Couriers and Messengers

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(O\*NET 43-5021.00)

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### Nature of the Work

Couriers and messengers move and distribute information, documents, and small packages for businesses, institutions, and government agencies. They pick up and deliver letters, important business documents, or packages that need to be sent or received quickly within a local area. Trucks and vans are used for larger deliveries, such as legal caseloads and conference materials. By sending an item by courier or messenger, the sender ensures that it reaches its destination the same day or even within the hour. Couriers and messengers also deliver items that the sender is unwilling to entrust to other means of delivery, such as important legal or financial documents, passports, airline tickets, or medical samples to be tested.



*Couriers usually maintain records of deliveries and often obtain signatures from the people receiving the items.*

Couriers and messengers receive their instructions either by reporting to their office in person, by telephone, by two-way radio, or wireless data service. They then pick up the item and carry it to its destination. After each pickup or delivery, they check in with dispatch to receive instructions. Sometimes dispatch will contact them while they are between stops; they may be routed to go past a stop that has very recently called in a delivery. Since most couriers and messengers work on commission, they are carrying more than one package at any given time of the day. Consequently, most couriers and messengers spend much of their time outdoors or in their vehicle. They usually maintain records of deliveries and often obtain signatures from the persons receiving the items.

Most couriers and messengers deliver items within a limited geographic area, such as a city or metropolitan area. Items that need to go longer distances usually are sent by mail or by an overnight delivery service. Some couriers and messengers carry items only for their employer, which typically might be a law firm, bank, or financial institution. Others may act as part of an organization's internal mail system and mainly carry items among an organization's buildings or entirely within one building. Many couriers and messengers work for messenger or courier services; for a fee, they pick up items from anyone and deliver them to specified destinations within a local area. Most are paid on a commission basis.

Couriers and messengers reach their destination by several methods. Many drive vans or cars or ride motorcycles. A few travel by foot, especially in urban areas or when making deliveries nearby. In congested urban areas, messengers often use bicycles to make deliveries. Bicycle messengers usually are employed by messenger or courier services. Although e-mail and fax machines can deliver information faster than couriers and messengers can and a great deal of information is available over the Internet, an electronic copy cannot substitute for the original document for many types of business transactions.

### **Employment**

Couriers and messengers together held about 141,000 jobs in 2000. About 9 percent of couriers and messengers worked for law firms, another 10 percent worked for hospitals and medical and dental laboratories, and 29 percent were employed by local and long-distance trucking establishments. Financial institutions, such as commercial banks, savings institutions, and credit unions, employed 10 percent. The rest were employed in a variety of other industries. Technically, many messengers are self-employed independent contractors because

they provide their vehicles and, to a certain extent, set their own schedules but, in many respects, they are like employees because they usually work for one company.

### **Job Outlook**

Employment of couriers and messengers is expected to decline through 2010 despite an increasing volume of parcels, business documents, promotional materials, and other written information that must be handled and delivered as the economy expands. Employment of couriers and messengers will continue to be adversely impacted by the more widespread use of electronic information-handling technology. For example, fax machines that allow copies of documents to be immediately sent across town or around the world have become standard office equipment. The transmission of information using e-mail also has become commonplace and will continue to reduce the demand for messengers. Many documents, forms, and application that people used to have delivered by hand are now downloaded from the Internet. However, couriers and messengers still will be needed to transport materials that cannot be sent electronically—such as legal documents, blueprints and other oversized materials, large multipage documents, securities, passports, financial statements, and airline tickets. Also, they still will be required by medical and dental laboratories to pick up and deliver medical samples, specimens, and other materials.

### **Related Occupations**

Messengers and couriers deliver letters, parcels, and other items. They also keep accurate records of their work. Others who do similar work are Postal Service workers; truckdrivers and driver/sales workers; shipping, receiving, and traffic clerks; and cargo and freight agents.

### **Sources of Additional Information**

Information about job opportunities may be obtained from local employers and local offices of the State employment service. Persons interested in courier and messenger jobs also may contact messenger and courier services, mail-order firms, banks, printing and publishing firms, utility companies, retail stores, or other large firms.

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

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## **Dispatchers**

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(O\*NET 43-5031.00, 43-5032.00)

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### **Nature of the Work**

Dispatchers schedule and dispatch workers, equipment, or service vehicles for conveyance of materials or passengers. They keep records, logs, and schedules of the calls they receive, the transportation vehicles they monitor and control, and the actions they take. They maintain information on each call, and then prepare a detailed report on all activities occurring during the shift. Many dispatchers employ computer-aided dispatch systems to accomplish these tasks. The work of dispatchers varies greatly, depending on the industry in which they work.

Regardless of where they work, all dispatchers are assigned a specific territory and have responsibility for all communications within this area. Many work in teams, especially in large communications centers or companies. One person usually handles all dispatching calls to the response units or company drivers, while the other members of the team usually receive the incoming calls and deal with the public.

*Police, fire, and ambulance dispatchers*, also called public safety dispatchers, monitor the location of emergency services personnel from any one or all of the jurisdiction's emergency services departments. They dispatch the appropriate type and number of units in response to calls for assistance. Dispatchers, or call takers, often are the first people the public contacts when they call for emergency assistance. If certified for emergency medical services, the dispatcher may provide medical instruction to those on the scene of the emergency until the medical staff arrives.

Police, fire, and ambulance dispatchers work in a variety of settings; they may work in a police station, a fire station, a hospital, or, increasingly, in a centralized communications center. In many areas, the police department serves as the communications center. In these situations, all 911 emergency calls go to the police department, where a dispatcher handles the police calls and screens the others before transferring them to the appropriate service.

When handling calls, dispatchers carefully question each caller to determine the type, seriousness, and location of the emergency. This information is posted either electronically by computer or, with decreasing frequency, by hand. It is communicated immediately to uniformed or supervisory personnel, who quickly decide on the priority of the incident, the kind and number of units needed, and the location of the closest and most suitable units available. Usually, dispatchers constitute the communications workforce on a shift. Typically, there is a team of call takers who answer calls and relay the information to be dispatched. Responsibility then shifts to the dispatchers who send response units to the scene and monitor the activity of the public safety personnel answering the dispatch. During the course of the shift, dispatchers may rotate these functions.

When appropriate, dispatchers stay in close contact with other service providers—for example, a police dispatcher would monitor the response of the fire department when there is a major fire. In a medical emergency, dispatchers keep in close touch not only with the dispatched units, but also with the caller. They may give extensive pre-arrival first aid instructions while the caller is waiting for the ambulance. They continuously give updates on the patient's condition to the ambulance personnel, and often serve as a link between the medical staff in a hospital and the emergency medical technicians in the ambulance. (A separate statement on emergency medical technicians and paramedics appears elsewhere in the *Handbook*.)

Other dispatchers coordinate deliveries, service calls, and related activities for a variety of firms. *Truck dispatchers*, who work for local and long-distance trucking companies, coordinate the movement of trucks and freight between cities. They direct the pickup

and delivery activities of drivers. They receive customers' requests for pickup and delivery of freight; consolidate freight orders into truckloads for specific destinations; assign drivers and trucks; and draw up routes and pickup and delivery schedules. *Bus dispatchers* make sure that local and long-distance buses stay on schedule. They handle all problems that may disrupt service, and dispatch other buses or arrange for repairs in order to restore service and schedules. *Train dispatchers* ensure the timely and efficient movement of trains according to train orders and schedules. They must be aware of track switch positions, track maintenance areas, and the location of other trains running on the track. *Taxicab dispatchers*, or starters, dispatch taxis in response to requests for service and keep logs on all road service calls. *Tow truck dispatchers* take calls for emergency road service. They relay the nature of the problem to a nearby service station or a tow truck service and see to it that the emergency road service is completed. *Gas and water service dispatchers* monitor gaslines and water mains and send out service trucks and crews to take care of emergencies.

### Employment

Dispatchers held 254,000 jobs in 2000. About one-third were police, fire, and ambulance dispatchers, almost all of whom worked for State and local governments—primarily for local police and fire departments. Most of the remaining dispatchers worked for local and long-distance trucking companies and buslines; air carriers; wholesale establishments; railroads; taxicab companies; and companies providing business services.

Although dispatching jobs are found throughout the country, most dispatchers work in urban areas, where large communications centers and businesses are located.

### Job Outlook

Employment of dispatchers is expected to grow as fast as the average for all occupations through 2010. In addition to those resulting from job growth, openings will arise from the need to replace workers who transfer to other occupations or leave the labor force.

Projected employment growth of police, fire, and ambulance dispatchers, or public safety dispatchers, stems from increased demand for emergency services. Many districts are consolidating their communications centers into a shared, areawide facility. Individuals with computer skills and experience will have a greater opportunity for employment as public safety dispatchers.

Population growth and economic expansion are expected to spur employment growth for other types of dispatchers. Employment of some dispatchers is more adversely affected by economic downturns than that of other dispatchers. When economic activity falls, demand for transportation services declines. As a result, taxicab, train, and truck dispatchers may experience layoffs or a shortened workweek, and jobseekers may have some difficulty finding entry-level jobs. Employment of tow truck dispatchers, on the other hand, is seldom affected by general economic conditions because of the emergency nature of their business.

### Related Occupations

Other occupations that involve directing and controlling the movement of vehicles, freight, and personnel, as well as distributing information and messages, include air traffic controllers, communications equipment operators, customer service representatives, and reservation and transportation ticket agents and travel clerks.

### Sources of Additional Information

For further information on training and certification for police, fire, and emergency dispatchers, contact:



*Projected employment growth of public safety dispatchers stems from increased demand for emergency services.*

- National Academy of Emergency Medical Dispatch, 139 East South Temple, Suite 530, Salt Lake City, UT 84111. Internet: <http://www.emergencydispatch.org>
- Association of Public Safety Communications Officials, 2040 S. Ridgewood, South Daytona, FL 32119-2257. Internet: <http://www.apcointl.org>
- International Municipal Signal Association, 165 East Union St., P.O. Box 539, Newark, NY 14513-0539. Internet: <http://www.imsasafety.org>
- For information on train dispatchers, contact:
- American Train Dispatchers Association, 1370 Ontario St., Cleveland, OH 44113. Internet: <http://www.ble.org/atdd/about-atdd.asp>

Information on job opportunities for police, fire, and emergency dispatchers is available from personnel offices of State and local governments or police departments. Information about work opportunities for other types of dispatchers is available from local employers and State employment service offices.

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

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## Meter Readers, Utilities

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(O\*NET 43-5041.00)

### Nature of the Work

Meter readers read electric, gas, water, or steam consumption meters and record the volume used. They serve both residential and commercial consumers, either walking or driving along the designated route. Their duties include inspecting the meters and their connections for any defects or damage, supplying meter repair and maintenance workers with the necessary information to fix damaged meters, and keeping track of the average usage and record reasons for any extreme fluctuations in volume.

Meter readers are constantly aware of any abnormal behavior or consumption that might indicate an unauthorized connection. They may turn off service for questionable behavior or nonpayment of charges, and also are responsible for turning on service for new occupants. They usually keep a record of receipt and completion of meter service.

### Employment

Meter readers held about 49,000 jobs in 2000. About half were employed by electric, gas, and water utilities. Most of the rest were employed in local government, reading water meters or meters for other government-owned utilities.



*A worker reads a meter outside a home.*

### Job Outlook

Employment of meter readers is expected to decline through 2010. New automated meter reading (AMR) systems allow meters to be monitored and billed from a central point, reducing the need for meter readers. However, because it will be many years before AMR systems can be implemented in all locations, there still will be some openings for meter readers, mainly to replace workers who leave the occupation.

### Related Occupations

Other workers responsible for the distribution and control of utilities include powerplant operators, distributors, and dispatchers.

### Sources of Additional Information

Information on employment as a meter reader, and on automatic meter reading technology, can be obtained from:

- Automatic Meter Reading Association. Internet: <http://www.amra-intl.org>

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

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## Production, Planning, and Expediting Clerks

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(O\*NET 43-5061.00)

### Nature of the Work

Production, planning, and expediting clerks coordinate and expedite the flow of information, work, and materials within or among offices. Most of their work is done according to production, work, or shipment schedules. The schedules are reviewed and distributed after being considered by supervisors who determine work progress and completion dates. Production, planning, and expediting clerks compile reports on progress of work and production problems. They also may schedule workers, estimate costs, schedule shipment of parts, keep inventory of materials, inspect and assemble materials, and write special orders for services and merchandise. In addition, they may route and deliver parts to ensure that production quotas are met and that merchandise is delivered on the date promised.

*Production and planning clerks* compile records and reports on various aspects of production, such as materials and parts used, products produced, machine and instrument readings, and frequency of defects. They prepare and distribute work tickets or other production guides to workers. They coordinate, schedule, monitor, and chart production and its progress, either manually or using electronic equipment. Production and planning clerks also gather information from customer orders or other specifications to prepare a detailed production sheet that serves as a guide in assembly or manufacture of the product.

*Expediting clerks* contact vendors and shippers to ensure that merchandise, supplies, and equipment are forwarded on the specified shipping dates. They communicate with transportation companies to prevent delays in transit, and they may arrange for distribution of materials upon arrival. They may even visit work areas of vendors and shippers to check the status of orders. Expediting clerks locate and distribute materials to specified production areas. They may inspect products for quality and quantity to ensure adherence to specifications. They also keep a chronological list of due dates and may move work not meeting the production schedule to the front.





*Production, planning, and expediting clerks compile reports on the progress of work and on production problems.*

### **Employment**

In 2000, production, planning, and expediting clerks held 332,000 jobs. Jobs in manufacturing made up 44 percent and jobs in wholesale trade and groceries and related products comprised about 6 percent. About 8 percent worked in the personnel supply services industry.

### **Job Outlook**

Employment of production, planning, and expediting clerks is expected to grow about as fast as the average for all occupations through 2010. As increasing pressure is put on companies to get things produced and delivered more quickly and efficiently, the need for production, planning, and expediting clerks will grow. The work of production, planning, and expediting clerks is less likely to be automated than is that of many other administrative support occupations. In addition to openings due to employment growth, many additional job openings will arise from the need to replace production, planning, and expediting clerks who leave the labor force or transfer to other occupations.

### **Related Occupations**

Other workers who coordinate the flow of information to assist the production process include cargo and freight agents; shipping, receiving, and traffic clerks; stock clerks and order fillers; and weighers, measurers, checkers, and samplers, recordkeeping.

### **Sources of Additional Information**

Information about job opportunities may be obtained from local employers and local offices of the State employment service.

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

## **Shipping, Receiving, and Traffic Clerks**

(O\*NET 43-5071.00)

### **Nature of the Work**

Shipping, receiving, and traffic clerks keep records of all goods shipped and received. Their duties depend on the size of the establishment and the level of automation used. Larger companies typically are better able to finance the purchase of computers and other

equipment to handle some or all of a clerk's responsibilities. In smaller companies, a clerk maintains records, prepares shipments, and accepts deliveries. In both environments, shipping, receiving, and traffic clerks may lift cartons of various sizes.

*Shipping clerks* keep records of all outgoing shipments. They prepare shipping documents and mailing labels, and make sure orders have been filled correctly. Also, they record items taken from inventory and note when orders were filled. Sometimes they fill the order themselves, obtaining merchandise from the stockroom, noting when inventories run low, and wrapping or packing the goods in shipping containers. They also address and label packages, look up and compute freight or postal rates, and record the weight and cost of each shipment. Shipping clerks also may prepare invoices and furnish information about shipments to other parts of the company, such as the accounting department. Once a shipment is checked and ready to go, shipping clerks may move the goods from the plant—sometimes by forklift truck—to the shipping dock and direct its loading.

*Receiving clerks* perform tasks similar to those of shipping clerks. They determine whether orders have been filled correctly by verifying incoming shipments against the original order and the accompanying bill of lading or invoice. They make a record of the shipment and the condition of its contents. In many firms, receiving clerks use hand-held scanners to record barcodes on incoming products or enter the information into a computer. These data then can be transferred to the appropriate departments. The shipment is checked for any discrepancies in quantity, price, and discounts. Receiving clerks may route or move shipments to the proper department, warehouse section, or stockroom. They also may arrange for adjustments with shippers whenever merchandise is lost or damaged. Receiving clerks in small businesses also may perform duties similar to those of stock clerks. In larger establishments, receiving clerks may control all receiving-platform operations, such as truck scheduling, recording of shipments, and handling of damaged goods.

*Traffic clerks* maintain records on the destination, weight, and charges on all incoming and outgoing freight. They verify rate charges by comparing the classification of materials with rate charts. In many companies, this work may be automated. Information either is scanned or is hand-entered into a computer for use by accounting or other departments within the company. Also, they keep a file of claims for overcharges and for damage to goods in transit.



*Shipping, receiving, and traffic clerks maintain records and prepare shipments.*

## Employment

Shipping, receiving, and traffic clerks held about 890,000 jobs in 2000. Nearly 4 out of 5 were employed in manufacturing or by wholesale and retail establishments. Although jobs for shipping, receiving, and traffic clerks are found throughout the country, most clerks work in urban areas, where shipping depots in factories and wholesale establishments usually are located. (For information on shipping, receiving, and traffic clerks working for the U.S. Postal Service, see the statement on Postal Service workers elsewhere in the *Handbook*).

## Job Outlook

Employment of shipping, receiving, and traffic clerks is expected to grow more slowly than the average for all occupations through 2010. Employment growth will continue to be affected by automation, as all but the smallest firms move to reduce labor costs by using computers to store and retrieve shipping and receiving records.

Methods of material handling have changed significantly in recent years. Large warehouses are increasingly automated, using equipment such as computerized conveyor systems, robots, computer-directed trucks, and automatic data storage and retrieval systems. Automation, coupled with the growing use of hand-held scanners and personal computers in shipping and receiving departments, has increased the productivity of these workers.

Despite technology, job openings will continue to arise due to increasing economic and trade activity, and because certain tasks cannot be automated. For example, someone needs to check shipments before they go out and when they arrive to ensure that everything is in order. In addition to those arising from job growth, openings will occur because of the need to replace shipping, receiving, and traffic clerks who leave the occupation. Because this is an entry-level occupation, many vacancies are created by normal career progression.

## Related Occupations

Shipping, receiving, and traffic clerks record, check, and often store materials that a company receives. They also process and pack goods for shipment. Other workers who perform similar duties are stock clerks and order fillers; production, planning, and expediting clerks; and cargo and freight agents.

## Sources of Additional Information

Information about job opportunities may be obtained from local employers and local offices of the State employment service.

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

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# Stock Clerks and Order Fillers

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(O\*NET 43-5081.01, 43-5081.02, 43-5081.03, 43-5081.04)

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## Nature of the Work

Stock clerks and order fillers receive, unpack, check, store, and track merchandise or materials. They keep records of items entering or leaving the stockroom and inspect damaged or spoiled goods. They sort, organize, and mark items with identifying codes, such as prices or stock or inventory control codes, so that inventories can be located quickly and easily. They also may be required to lift cartons of various sizes. In larger establishments, where they may be responsible for only one task, they may be called *stock-control clerk*, *merchandise distributor*, or *property custodian*. In smaller firms, they also may perform tasks usually handled by shipping and



*The growing use of computers and automated equipment is expected to slow growth in demand for stock clerks and order fillers.*

receiving clerks. (A separate statement on shipping, receiving, and traffic clerks appears elsewhere in this section of the *Handbook*.)

In many firms, stock clerks and order fillers use hand-held scanners connected to computers to keep inventories up to date. In retail stores, stock clerks bring merchandise to the sales floor and stock shelves and racks. In stockrooms and warehouses, stock clerks store materials in bins, on floors, or on shelves. Instead of putting the merchandise on the sales floor or on shelves, order fillers take customer orders and either hold the merchandise until the customer can pick it up or send it to them.

## Employment

Stock clerks and order fillers held about 1.7 million jobs in 2000; they were, by far, the largest material recording, scheduling, dispatching, and distributing occupation. About 76 percent work in wholesale and retail trade. The greatest numbers are found in grocery stores, followed by department stores. Jobs for stock clerks are found in all parts of the country, but most work in large urban areas that have many large suburban shopping centers, warehouses, and factories.

## Job Outlook

Employment of stock clerks and order fillers is projected to grow more slowly than the average for all occupations through 2010, due to the use of automation in factories and stores. Because this occupation is very large and many jobs are entry level, however, numerous job openings will occur each year to replace those who transfer to other jobs or leave the labor force.

The growing use of computers for inventory control and the installation of new, automated equipment are expected to slow growth in demand for stock clerks and order fillers. This is especially true in manufacturing and wholesale trade industries whose operations are most easily automated. In addition to computerized inventory control systems, firms in these industries rely more on sophisticated conveyor belts and automatic high stackers to store and retrieve goods. Also, expanded use of battery-powered, driverless, automatically guided vehicles can be expected.

Employment of stock clerks and order fillers who work in grocery, general merchandise, department, apparel, and accessories stores is expected to be somewhat less affected by automation because much of their work is done manually and is difficult to automate. In addition, the increasing role of large retail outlets and warehouses, as well as catalogue, mail, telephone, and Internet shopping services,

should bolster employment of stock clerks and order fillers in these sectors of retail trade.

### Related Occupations

Workers who also handle, move, organize, store, and keep records of materials include shipping, receiving, and traffic clerks; production, planning, and expediting clerks; cargo and freight agents; and procurement clerks.

### Sources of Additional Information

State employment service offices can provide information about job openings for stock clerks and order fillers. Also, see office and administrative support occupations and sales occupations elsewhere in the *Handbook* for sources of additional information.

General information about stock clerks and order fillers in retail trade can be obtained from:

► National Retail Federation, 325 Seventh St. NW., Suite 1000, Washington, DC 20004. Internet: <http://www.nrf.com/nri/>

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

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## Weighers, Measurers, Checkers, and Samplers, Recordkeeping

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(O\*NET 43-5111.00)

### Nature of the Work

Weighers, measures, checkers, and samplers weigh, measure, and check materials, supplies, and equipment in order to keep relevant records. Most of their duties are clerical. They verify quantity, quality, and overall value and condition of items purchased, sold, or produced against records, bills, invoices, or receipts. Weighers, measures, checkers, and samplers check and document items using either manual or automated data processing systems. They check the items to ensure accuracy of the recorded data. They prepare reports on warehouse inventory levels and use of parts. Weighers, measurers, checkers, and samplers also check for any defects in the items and record the severity of the defects.

These workers use weight scales, counting devices, tally sheets, and calculators to properly record information about the products. They usually move objects to and from the scales using a handtruck



*Weighers, measures, checkers, and samplers verify the quantity and quality of items purchased or sold against records.*

or forklift. They issue receipts for the products when needed or requested.

### Employment

Weighers, measurers, checkers, and samplers held about 83,000 jobs in 2000. Their employment is spread across most industries. Department stores and air carriers accounted for about 16 percent of these jobs. Wholesale trade and services comprised 28 percent of employment.

### Job Outlook

Employment of weighers, measurers, checkers, and samplers is expected to grow about as fast as the average for all occupations through 2010. The emphasis on accurate and nondefective materials, as well as the use of records for verifying information, is an increasingly important responsibility for companies that will increase the need for weighers, measurers, checkers, and samplers. Furthermore, automation should not have a significant effect on employment in this occupation because most of its duties need to be done manually. In addition to those resulting from job growth, openings should arise from the need to replace workers who leave the labor force or transfer to other occupations.

### Related Occupations

Other workers who determine and document characteristics of materials or equipment include cargo and freight agents; production, planning, and expediting clerks; shipping, receiving, and traffic clerks; stock clerks and order fillers; and procurement clerks.

### Sources of Additional Information

Information about job opportunities may be obtained from local employers and local offices of the State employment service.

(See introduction to the section on material recording, scheduling, dispatching, and distributing occupations for information on working conditions, training requirements, and earnings.)

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## Office and Administrative Support Worker Supervisors and Managers

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(O\*NET 43-1011.01, 43-1011.02)

### Significant Points

- Most jobs are filled by promoting individuals from within the organization, very often from the ranks of clerks whom they will subsequently supervise.
- Office automation will cause employment in some office and administrative support occupations to slow or even decline, but supervisors are more likely to retain their jobs because of their relatively higher skills and longer tenure.
- Applicants for office and administrative support supervisor or manager jobs are likely to encounter keen competition because their number should greatly exceed the number of job openings.

### Nature of the Work

All organizations need timely and effective office and administrative support to operate efficiently. *Office and administrative support supervisors and managers* coordinate this support. These workers are employed in virtually every sector of the economy,

working in positions as varied as *customer services manager, teller supervisor, and shipping-and-receiving supervisor.*

Although specific functions of office and administrative support supervisors and managers vary considerably, they share many common duties. For example, supervisors perform administrative tasks to ensure that their staffs can work efficiently. Equipment and machinery used in their departments must be in good working order. If the computer system goes down or a facsimile machine malfunctions, they must try to correct the problem or alert repair personnel. They also request new equipment or supplies for their department when necessary.

Planning the work of their staff and supervising them are key functions of this job. To do these effectively, the supervisor must know the strengths and weaknesses of each member of the staff, as well as the required level of quality and time allotted to each job. They must make allowances for unexpected absences and other disruptions by adjusting assignments or performing the work themselves if the situation requires it.

After allocating work assignments and issuing deadlines, office and administrative support supervisors and managers oversee the work to ensure that it is proceeding on schedule and meets established quality standards. This may involve reviewing each person's work on a computer—as in the case of accounting clerks—or listening to how they deal with customers—as in the case of customer services representatives. When supervising long-term projects, the supervisor may meet regularly with staff members to discuss their progress.

Office and administrative support supervisors and managers also evaluate each worker's performance. If a worker has done a good job, the supervisor records it in the employee's personnel file and may recommend a promotion or other award. Alternatively, if a worker is performing poorly, the supervisor discusses the problem with the employee to determine the cause and helps the worker improve his or her performance. This might require sending the employee to a training course or arranging personal counseling. If the situation does not improve, the supervisor may recommend a transfer, demotion, or dismissal.

Office and administrative support supervisors and managers usually interview and evaluate prospective clerical employees. When new workers arrive on the job, supervisors greet them and provide orientation to acquaint them with the organization and its operating routines. Some supervisors may be actively involved in recruiting new workers, for example, by making presentations at high schools and business colleges. They may also serve as the primary liaisons between their offices and the general public through direct contact and by preparing promotional information.

Supervisors also help train new employees in organization and office procedures. They may teach new employees how to use the telephone system and operate office equipment. Because much clerical work is computerized, they must also teach new employees to use the organization's computer system. When new office equipment or updated computer software is introduced, supervisors retrain experienced employees in using it efficiently. If this is not possible, they may arrange for special outside training for their employees.

Office and administrative support supervisors and managers often act as liaisons between the clerical staff and the professional, technical, and managerial staff. This may involve implementing new company policies or restructuring the workflow in their departments. They must also keep their superiors informed of their progress and abreast of any potential problems. Often this communication takes the form of research projects and progress reports. Because they have access to information such as their department's performance records, they may compile and present these data for use in planning or designing new policies.



*Planning work and supervising staff are key functions of office and administrative support worker supervisors and managers.*

Office and administrative support supervisors and managers also may have to resolve interpersonal conflicts among the staff. In organizations covered by union contracts, supervisors must know the provisions of labor-management agreements and run their departments accordingly. They may meet with union representatives to discuss work problems or grievances.

### **Working Conditions**

Office and administrative support supervisors and managers are employed in a wide variety of work settings, but most work in clean, well lit, offices that usually are comfortable.

Most work a standard 40-hour week. Because some organizations operate around the clock, office and administrative support supervisors and managers may have to work nights, weekends, and holidays. Sometimes supervisors rotate among the three shifts; in other cases, shifts are assigned on the basis of seniority.

### **Employment**

Office and administrative support supervisors and managers held almost 1.4 million jobs in 2000. Although jobs for office and administrative support supervisors and managers are found in practically every industry, the largest number are found in organizations with a large clerical workforce such as banks, wholesalers, government agencies, retail establishments, business service firms, healthcare facilities, schools, and insurance companies. Because of most organizations' need for continuity of supervision, few office

and administrative support supervisors and managers work on a temporary or part-time basis.

### Training, Other Qualifications, and Advancement

Most firms fill office and administrative support supervisory and managerial positions by promoting clerical or administrative support workers from within their organizations. To become eligible for promotion to a supervisory position, clerical or administrative support workers must prove they are capable of handling additional responsibilities. When evaluating candidates, superiors look for strong teamwork, problem-solving, leadership, and communication skills, as well as determination, loyalty, poise, and confidence. They also look for more specific supervisory attributes, such as the ability to organize and coordinate work efficiently, to set priorities, and to motivate others. Increasingly, supervisors need a broad base of office skills coupled with personal flexibility to adapt to changes in organizational structure and move among departments when necessary.

In addition, supervisors must pay close attention to detail in order to identify and correct errors made by the staff they oversee. Good working knowledge of the organization's computer system is also an advantage. Many employers require postsecondary training—in some cases, an associate's or even a bachelor's degree.

A clerk with potential supervisory abilities may be given occasional supervisory assignments. To prepare for full-time supervisory duties, he or she may attend in-house training or take courses in time management or interpersonal relations.

Some office and administrative support supervisor positions are filled with people from outside the organization. These positions may serve as entry-level training for potential higher level managers. New college graduates may rotate through departments of an organization at this level to learn the work of the organization.

### Job Outlook

Like other supervisory occupations, applicants for jobs as office and administrative support supervisors or managers are likely to encounter keen competition because the number of applicants should greatly exceed the number of job openings. Employment is expected to grow more slowly than the average for all occupations through 2010. In addition to the job openings arising from growth, a larger number of openings will stem from the need to replace workers who transfer to other occupations or leave this large occupation for other reasons.

Employment of office and administrative support supervisors and managers is largely affected by the demand for administrative support workers. The continuing increase in office automation due to new technology should increase support workers' productivity and allow a wider variety of tasks to be performed by more people in professional positions, requiring fewer office and administrative support workers. The result will be to cause employment growth in some clerical occupations to slow or even decline. Supervisors will direct smaller permanent staffs—supplemented by increased use of temporary clerical staff—and perform more professional tasks. Office and administrative support managers will coordinate the increasing amount of administrative work and make sure the technology is applied and running properly. However, organizational restructuring should continue to reduce some manager positions, distributing more responsibility to office and administrative support supervisors.

### Earnings

Median annual earnings of office and administrative support supervisors and managers were \$36,420 in 2000; the middle 50 percent earned between \$28,090 and \$47,350. The lowest paid 10 percent earned less than \$22,070, while the highest paid 10 percent earned

more than \$60,600. In 2000, median annual earnings in the industries employing the largest numbers of office and administrative support supervisors and managers were:

Federal Government .....	\$48,870
State government .....	40,050
Local government .....	38,450
Offices and clinics of medical doctors .....	35,140
Commercial banks .....	34,240
Department stores .....	20,370

In addition to typical benefits, some office and administrative support supervisors and managers in the private sector may receive additional compensation in the form of bonuses and stock options.

### Related Occupations

Office and administrative support supervisors and managers must understand and sometimes perform the work of those whom they oversee, including bookkeeping, accounting, and auditing clerks; cashiers; communications equipment operators; customer service representatives; data entry and information processing workers; general office clerks; receptionists and information clerks; stock clerks and order fillers; and tellers. Their supervisory and administrative duties are similar to those of other supervisors and managers.

### Sources of Additional Information

For a wide variety of information related to management occupations, including educational programs, contact:

- American Management Association, 1601 Broadway, New York, NY 10019-7420. Internet: <http://www.amanet.org>
- National Management Association, 2210 Arbor Blvd., Dayton, OH 45439. Internet: <http://www.nma1.org>
- Association of Records Managers and Administrators, 4200 Somerset Dr., Suite 215, Prairie Village, KS 66208-0540. Internet: <http://www.arma.org>
- International Association of Administrative Professionals, 10502 NW Ambassador Dr., P.O. Box 20404, Kansas City, MO 64195-0404. Internet: <http://www.iaap-hq.org>

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## Office Clerks, General

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(O\*NET 43-9061.00)

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### Significant Points

- Although most jobs are entry level, applicants with previous office experience, computer skills, and sound communication abilities may have an advantage.
- Plentiful job opportunities will stem from employment growth, the large size of the occupation, and high replacement needs.

### Nature of the Work

Rather than performing a single specialized task, the daily responsibilities of general office clerks change with the needs of the specific job and the employer. Whereas some clerks spend their days filing or typing, others enter data at a computer terminal. They can also be called upon to operate photocopiers, fax machines, and other office equipment; prepare mailings; proofread copies; and answer telephones and deliver messages.

The specific duties assigned to a clerk vary significantly, depending upon the type of office in which a clerk works. An office clerk in a doctor's office, for example, would not perform the same tasks as a clerk in a large financial institution or in the office of an



*Office clerks usually work in a comfortable office setting.*

auto-parts wholesaler. Although they may sort checks, keep payroll records, take inventory, and access information, clerks also perform duties unique to their employer, such as organizing medications, making transparencies for a presentation, or filling orders received by fax machine.

The specific duties assigned to a clerk also vary by level of experience. Whereas inexperienced employees make photocopies, stuff envelopes, or record inquiries, experienced clerks usually are given additional responsibilities. For example, they may maintain financial or other records, set up spreadsheets, verify statistical reports for accuracy and completeness, handle and adjust customer complaints, work with vendors, make travel arrangements, take inventory of equipment and supplies, answer questions on departmental services and functions, or help prepare invoices or budgetary requests. Senior office clerks may be expected to monitor and direct the work of lower level clerks.

**Working Conditions**

For the most part, general office clerks work in comfortable office settings. Those on full-time schedules usually work a standard 40-hour week; however, some work shifts or overtime during busy periods. About 1 in 4 clerks work part time, and about 1 in 10 work on a temporary basis.

**Employment**

General office clerks held about 2.7 million jobs in 2000. Most are employed in relatively small businesses. Although they work in every sector of the economy, more than 60 percent worked in the services or wholesale and retail trade industries.

**Training, Other Qualifications, and Advancement**

Although most office clerk jobs are entry-level administrative support positions, some previous office or business experience may be needed. Employers usually require a high school diploma, and some require typing, basic computer skills, and other general office skills. Familiarity with computer word-processing software and applications is becoming increasingly important.

Training for this occupation is available through business education programs offered in high schools, community and junior colleges, and postsecondary vocational schools. Courses in word processing, other computer applications, and office practices are particularly helpful.

Because general office clerks usually work with other office staff, they should be cooperative and able to work as part of a team.

Employers prefer individuals who are able to perform a variety of tasks and satisfy the needs of the many departments within a company. In addition, applicants should have good communication skills, be detail-oriented, and adaptable.

General office clerks who exhibit strong communication, interpersonal, and analytical skills may be promoted to supervisory positions. Others may move into different, more senior clerical or administrative jobs, such as receptionist, secretary, or administrative assistant. After gaining some work experience or specialized skills, many workers transfer to jobs with higher pay or greater advancement potential. Advancement to professional occupations within an establishment normally requires additional formal education, such as a college degree.

**Job Outlook**

Employment of general office clerks is expected to grow about as fast as the average for all occupations through the year 2010. Employment growth, the large size of the occupation, and high replacement needs should result in plentiful job opportunities for general office clerks in many industries. Furthermore, growth in part-time and temporary clerical positions will lead to a large number of job openings. Prospects should be brightest for those who have knowledge of basic computer applications and office machinery, such as fax machines and copiers. Job opportunities will also be most favorable for those with good writing and communication skills. As general clerical duties continue to be consolidated and the ability to perform multiple tasks becomes increasingly necessary, employers will seek well-rounded individuals with highly developed communication skills.

The employment outlook for general office clerks will be affected by the increasing use of computers, expanding office automation, and the consolidation of clerical tasks. Automation has led to productivity gains, allowing a wide variety of duties to be performed by few office workers. However, automation also has led to a consolidation of clerical staffs and a diversification of job responsibilities. This consolidation increases the demand for general office clerks, because they perform a variety of clerical tasks. It will become increasingly common within small businesses to find a single general office clerk in charge of all clerical work.

Job opportunities may vary from year to year, because the strength of the economy affects demand for general office clerks. Companies tend to hire more when the economy is strong. Industries least likely to be affected by economic fluctuation tend to be the most stable places for employment.

**Earnings**

Median annual earnings of general office clerks were \$21,130 in 2000; the middle 50 percent earned between \$16,710 and \$26,670 annually. Ten percent earned less than \$13,650, and 10 percent more than \$33,050. Median annual salaries in the industries employing the largest numbers of general office clerks in 2000 are shown below:

State government .....	\$24,830
Local government .....	24,100
Commercial banks .....	22,320
Hospitals .....	22,310
Elementary and secondary schools .....	21,560
Offices and clinics of medical doctors .....	20,440
Colleges and universities .....	20,220
Personnel supply services .....	19,510

**Related Occupations**

The duties of general office clerks can include a combination of bookkeeping, typing, office machine operation, and filing. Other

office and administrative support workers who perform similar duties include information and record clerks, and secretaries and administrative assistants. Nonclerical entry-level workers include cashiers, medical assistants, and food and beverage serving and related workers.

#### Sources of Additional Information

State employment service offices and agencies can provide information about job openings for general office clerks.

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## Postal Service Workers

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(O\*NET 43-5051.00, 43-5052.00, 43-5053.00)

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### Significant Points

- Qualification is based on an examination.
- Employment is expected to decline slightly.
- Keen competition is expected because the number of qualified applicants should continue to exceed the number of job openings.

### Nature of the Work

Each week, the U.S. Postal Service delivers billions of pieces of mail, including letters, bills, advertisements, and packages. To do this in an efficient and timely manner, the Postal Service employs about 860,000 individuals. Most Postal Service workers are postal clerks or mail carriers. Postal clerks include a wide variety of workers such as window clerks, distribution clerks, and mail processors. Window clerks wait on customers at post offices, whereas distribution clerks and mail processors sort mail. Mail carriers deliver mail to urban and rural residences and businesses throughout the United States.

Postal clerks, who typically are classified by job duties, perform a variety of functions in the Nation's post offices. Those who work as window or counter clerks, for example, sell stamps, money orders, postal stationary, and mailing envelopes and boxes. They also weigh packages to determine postage and check that packages are in satisfactory condition for mailing. These clerks register, certify, and insure mail and answer questions about postage rates, post office boxes, mailing restrictions, and other postal matters. Window and counter clerks also help customers file claims for damaged packages.

Distribution clerks sort local mail for delivery to individual customers. Other clerks, known as mail processors, operate optical character readers (OCRs) and barcode sorters to arrange mail according to destination. OCRs "read" the ZIP code and spray a barcode onto the mail. Barcode sorters then scan the code and sort the mail. Because this is significantly faster than older sorting methods, it is becoming the standard sorting technology in mail processing centers.

Nevertheless, in some locations, mail still is sorted using electronic letter-sorting machines. Workers who operate these machines push keys corresponding to the ZIP code of the local post office to which each letter will be delivered. The machine then drops the letter into the proper slot. Odd-sized letters, magazines, and newspapers still are sorted by hand. In small post offices, some workers perform all of the functions listed above.

Once the mail has been processed and sorted, it is ready to be delivered by mail carriers. Although carriers are classified by their type of route—either city or rural—duties of city and rural carriers are similar. Most travel established routes, delivering and collecting

mail. Mail carriers start work at the post office early in the morning, when they arrange the mail in delivery sequence. Recently, automated equipment has reduced the time that carriers need to sort the mail, allowing them to spend more time delivering mail.

Mail carriers cover their routes on foot, by vehicle, or a combination of both. On foot, they carry a heavy load of mail in a satchel or push it on a cart. In most urban and rural areas, they use a car or small truck. Although the Postal Service provides vehicles to city carriers, most rural carriers must use their own automobiles. Deliveries are made house-to-house, to roadside mailboxes, and to large buildings such as offices or apartments, which generally have all the mailboxes at one location.

Besides delivering and collecting mail, carriers collect money for postage-due and COD (cash-on-delivery) fees and obtain signed receipts for registered, certified, and insured mail. If a customer is not home, the carrier leaves a notice that tells where special mail is being held. After completing their routes, carriers return to the post office with mail gathered from street collection boxes, homes, and businesses and turn in the mail, receipts, and money collected during the day.

The duties of some city carriers can be specialized, with some delivering only parcel post, whereas others pick up mail from mail collection boxes. In contrast to city carriers, rural carriers provide a wider range of postal services, in addition to delivering and picking up mail. For example, rural carriers may sell stamps and money orders and register, certify, and insure parcels and letters.



*Although some mail still is sorted by hand, machines are increasingly used to sort mail.*



All carriers, however, must be able to answer customers' questions about postal regulations and services and provide change-of-address cards and other postal forms when requested.

### **Working Conditions**

Window clerks usually work in the public portion of clean, well-ventilated, and well lit buildings. They have a variety of duties and frequent contact with the public, but they rarely work at night. However, they may have to deal with upset customers, stand for long periods, and be held accountable for an assigned stock of stamps and funds. Depending on the size of the post office in which they work, they also may be required to sort mail.

The working conditions of other postal clerks can vary. In small post offices, workers may sort mail by hand. In large post offices and mail processing centers, chutes and conveyors move the mail, and machines do much of the sorting. Despite the use of automated equipment, the work of postal clerks can be physically demanding. These workers usually are on their feet, reaching for sacks and trays of mail or placing packages and bundles into sacks and trays.

Mail distribution clerks and mail processors can become tired and bored with the endless routine of moving and sorting mail. Many work at night or on weekends, because most large post offices process mail around the clock, and the largest volume of mail is sorted during the evening and night shifts. Workers can experience stress, as they process ever-larger quantities of mail under tight production deadlines and quotas.

Most carriers begin work early in the morning—those with routes in a business district can start as early as 4 a.m. Overtime hours are frequently required for urban carriers during peak delivery times, such as before the winter holidays. A carrier's schedule has its advantages, however. Carriers who begin work early in the morning are through by early afternoon and spend most of the day on their own, relatively free from direct supervision. Carriers spend most of their time outdoors, delivering mail in all kinds of weather. Even those who drive often must walk periodically when making deliveries and must lift heavy sacks of parcel post items when loading their vehicles. In addition, carriers must be cautious of potential hazards on their routes. Wet and icy roads and sidewalks can be treacherous, and each year dogs attack numerous carriers.

### **Employment**

The U.S. Postal Service employed 74,000 clerks; 324,000 mail carriers; and 289,000 mail sorters, processors, and processing-machine operators in 2000. Most of them worked full time. While some postal clerks provided window service, most processed mail. Many distribution clerks and mail processors sorted mail at major metropolitan post offices; others worked at mail-processing centers. The majority of mail carriers worked in cities and suburbs, while the rest worked in rural areas.

Postal Service workers are classified as casual, part-time flexible, part-time regular, or full time. Casuals are hired for 90 days at a time to help process and deliver mail during peak mailing or vacation periods. Part-time flexible workers do not have a regular work schedule or weekly guarantee of hours but are called in as the need arises. Part-time regulars have a set work schedule of fewer than 40 hours per week, often replacing regular full-time workers on their scheduled day off. Full-time postal employees work a 40-hour week over a 5-day period.

### **Training, Other Qualifications, and Advancement**

Postal Service workers must be at least 18 years old and U.S. citizens or have been granted permanent resident-alien status in the

United States. Qualification is based on a written examination that measures speed and accuracy at checking names and numbers and the ability to memorize mail distribution procedures. Applicants must pass a physical examination and drug test, and may be asked to show that they can lift and handle mail sacks weighing 70 pounds. Applicants for mail carrier positions must have a driver's license and a good driving record, and receive a passing grade on a road test.

Jobseekers should contact the post office or mail processing center where they wish to work to determine when an exam will be given. Applicants' names are listed in order of their examination scores. Five points are added to the score of an honorably discharged veteran and 10 points to the score of a veteran who was wounded in combat or is disabled. When a vacancy occurs, the appointing officer chooses one of the top three applicants; the rest of the names remain on the list to be considered for future openings until their eligibility expires—usually 2 years after the examination date.

Relatively few people become postal clerks or mail carriers as their first job, because of keen competition and the customary waiting period of 1 to 2 years or more after passing the examination. It is not surprising, therefore, that most entrants transfer from other occupations.

New Postal Service workers are trained on the job by experienced workers. Many post offices offer classroom instruction on safety and defensive driving. Workers receive additional instruction when new equipment or procedures are introduced. In these cases, workers usually are trained by another postal employee or a training specialist.

Postal clerks and mail carriers should be courteous and tactful when dealing with the public, especially when answering questions or receiving complaints. A good memory and the ability to read rapidly and accurately are important. Good interpersonal skills also are vital, because mail distribution clerks work closely with other postal workers, frequently under the tension and strain of meeting dispatch or transportation deadlines and quotas.

Postal Service workers often begin on a part-time, flexible basis and become regular or full time, in order of seniority as vacancies occur. Full-time workers may bid for preferred assignments, such as the day shift or a high-level nonsupervisory position. Carriers can look forward to obtaining preferred routes as their seniority increases, or to high-level jobs, such as carrier technician. Postal Service workers can advance to supervisory positions on a competitive basis.

### **Job Outlook**

Employment of Postal Service workers is expected to decline slightly through 2010. However, many jobs still will become available because of the need to replace those who retire or leave the occupation. Those seeking jobs as Postal Service workers can expect to encounter keen competition, because the number of applicants will continue to exceed the number of openings.

Although efforts by the U.S. Postal Service to provide better service will increase the number of window clerks, the demand for such clerks will be offset by the use of electronic communications technologies and private delivery companies. Employment of distribution clerks and mail processors is expected to decline because of the increasing use of automated materials handling equipment and optical character readers, barcode sorters, and other automated sorting equipment. The expected decline in mail volume also may have a negative impact on the employment of distribution clerks and mail processors.

Several factors are expected to influence demand for mail carriers. The competition from alternative delivery systems and new

forms of electronic communication could drastically affect the total volume of mail handled. The Postal Service expects mail volume to increase through 2002, and then decrease through 2010. Most of the decrease is expected to come from first-class and standard mail. The Postal Service expects an increase in package deliveries due to the rising number of purchases made through the Internet by businesses and consumers and to partnerships the Postal Service has made with its competitors. Although total mail volume is projected to decrease, perhaps significantly, the number of addresses to which mail must be delivered will continue to increase. However, increased use of the "delivery point sequencing" system, which allows machines to sort mail directly by the order of delivery, should reduce the amount of time carriers spend sorting their mail, allowing them more time to handle these longer routes. In addition, the Postal Service is moving toward more centralized mail delivery, such as the increased use of cluster boxes, to cut down on the number of door-to-door deliveries. These trends are expected to increase carrier productivity, causing slow employment growth.

Currently the role of the Postal Service as a government-approved monopoly is a topic of debate. Any legislative changes that would privatize or deregulate the U.S. Postal Service may affect employment of all its workers. Employment and schedules in the Postal Service fluctuate with the demand for its services. When mail volume is high, full-time workers work overtime, part-time workers work additional hours, and casual workers may be hired. When mail volume is low, overtime is curtailed, part-timers work fewer hours, and casual workers are discharged.

### Earnings

Median annual earnings of postal mail carriers were \$38,420 in 2000. The middle 50 percent earned between \$33,620 and \$41,930. The lowest 10 percent had earnings of less than \$26,140, while the top 10 percent earned over \$44,040. Rural mail carriers are reimbursed for mileage put on their own vehicles while delivering mail.

Median annual earnings of Postal Service clerks were \$39,010 in 2000. The middle 50 percent earned between \$36,140 and \$41,870. The lowest 10 percent had earnings of less than \$31,980, while the top 10 percent earned more than \$43,590.

Median annual earnings of mail sorters, processors, and processing-machine operators were \$32,080 in 2000. The middle 50 percent earned between \$22,560 and \$39,300. The lowest 10 percent had earnings of less than \$18,940, while the top 10 percent earned more than \$42,570.

Postal Service workers enjoy a variety of employer-provided benefits similar to those enjoyed by Federal Government workers. The American Postal Workers Union or the National Association of Letter Carriers, both of which are affiliated with the AFL-CIO, represent most of these workers.

### Related Occupations

Other occupations with duties similar to those of postal clerks include cashiers; counter and rental clerks; file clerks; and shipping, receiving, and traffic clerks. Others with duties related to those of mail carriers include couriers and messengers and truckdrivers and driver/sales workers. Occupations whose duties are related to those of mail sorters, processors, and processing-machine operators include inspectors, testers, sorters, samplers, and weighers, and material moving occupations.

### Sources of Additional Information

Local post offices and State employment service offices can supply details about entrance examinations and specific employment opportunities for Postal Service workers.

## Secretaries and Administrative Assistants

(O\*NET 43-6011.00, 43-6012.00, 43-6013.00, 43-6014.00)

### Significant Points

- Increasing office automation and organizational restructuring will lead to slow growth in overall employment of secretaries and administrative assistants.
- Job openings will stem primarily from the need to replace workers who transfer to other occupations or leave this very large occupation for other reasons each year.
- Opportunities should be best for skilled and experienced secretaries.

### Nature of the Work

As technology continues to expand in offices across the Nation, the role of the office professional has greatly evolved. Office automation and organizational restructuring have led secretaries and administrative assistants to assume a wider range of new responsibilities once reserved for managerial and professional staff. Many secretaries and administrative assistants now provide training and orientation for new staff, conduct research on the Internet, and operate and troubleshoot new office technologies. In the midst of these changes, however, their core responsibilities have remained much the same, although changed from manual to electronic—performing and coordinating an office's administrative activities, storing retrieving, and integrating information for dissemination to staff and clients.

Secretaries and administrative assistants are responsible for a variety of administrative and clerical duties necessary to run an organization efficiently. They serve as an information manager for an office, schedule meetings and appointments, organize and maintain paper and electronic files, manage projects, conduct research, and provide information via the telephone, postal mail, and e-mail. They also may prepare correspondence and handle travel arrangements.

Secretaries and administrative assistants are aided in these tasks by a variety of office equipment, such as facsimile machines, photocopiers, and telephone systems. In addition, secretaries and administrative assistants increasingly use personal computers to create spreadsheets, compose correspondence, manage databases, and create reports and documents via desktop publishing, and using digital graphics—all tasks previously handled by managers and other professionals. At the same time, these other office workers have assumed many tasks traditionally assigned to secretaries and administrative assistants, such as word processing and answering the telephone. Because secretaries and administrative assistants are often relieved from dictation and typing, they can support more members of the executive staff. In a number of organizations, secretaries and administrative assistants work in teams in order to work flexibly and share their expertise.

Specific job duties vary with experience and titles. *Executive secretaries and administrative assistants*, for example, perform fewer clerical tasks than other secretaries. In addition to arranging conference calls, and scheduling meetings, they may handle more complex responsibilities such as conducting research, preparing statistical reports, training employees, and supervising other clerical staff.



*Some secretaries and administrative assistants perform highly specialized work requiring knowledge of technical terminology and procedures.*

Some secretaries and administrative assistants, such as legal and medical secretaries, perform highly specialized work requiring knowledge of technical terminology and procedures. For instance, *legal secretaries* prepare correspondence and legal papers such as summonses, complaints, motions, responses, and subpoenas under the supervision of an attorney or paralegal. They also may review legal journals and assist in other ways with legal research, such as verifying quotes and citations in legal briefs. *Medical secretaries* transcribe dictation, prepare correspondence, and assist physicians or medical scientists with reports, speeches, articles, and conference proceedings. They also record simple medical histories, arrange for patients to be hospitalized, and order supplies. Most medical secretaries need to be familiar with insurance rules, billing practices, and hospital or laboratory procedures. Other technical secretaries who assist engineers or scientists may prepare correspondence, maintain the technical library, and gather and edit materials for scientific papers.

**Working Conditions**

Secretaries and administrative assistants usually work in offices with other professionals in schools, hospitals, corporate settings, or in legal and medical offices. Their jobs often involve sitting for long periods. If they spend a lot of time typing, particularly at a video display terminal, they may encounter problems of eyestrain, stress, and repetitive motion, such as carpal tunnel syndrome.

Office work can lend itself to alternative or flexible working arrangements, such as part time work or telecommuting—especially if their jobs requires extensive computer use. More than 1 secretary in 7 works part time and many others work in temporary positions. A few participate in job sharing arrangements in which two people divide responsibility for a single job. The majority of secretaries, however, are full-time employees who work a standard 40-hour week.

**Employment**

Secretaries and administrative assistants held about 3.9 million jobs in 2000, ranking among the largest occupations in the U.S. economy. The following tabulation shows the distribution of employment by secretarial specialty.

Secretaries, except legal, medical, and executive .....	1,864,000
Executive secretaries and administrative assistants .....	1,445,000
Medical secretaries .....	314,000
Legal secretaries .....	279,000

Secretaries and administrative assistants are employed in organizations of every type. Almost 3 out of 5 secretaries and administrative

assistants are employed in firms providing services, ranging from education and health to legal and business services. Others work for firms engaged in manufacturing, construction, wholesale and retail trade, transportation, and communications. Banks, insurance companies, investment firms, and real estate firms are also important employers, as are Federal, State, and local government agencies.

**Training, Other Qualifications, and Advancement**

High school graduates who have basic office skills may qualify for entry-level secretarial positions. However, employers increasingly require extensive knowledge of software applications, such as word processing, spreadsheets, and database management. Secretaries and administrative assistants should be proficient in keyboarding and good at spelling, punctuation, grammar, and oral communication. Because secretaries and administrative assistants must be tactful in their dealings with people, employers also look for good interpersonal skills. Discretion, good judgment, organizational or management ability, initiative, and the ability to work independently are especially important for higher-level administrative positions.

As office automation continues to evolve, retraining and continuing education will remain an integral part of secretarial jobs. Changes in the office environment have increased the demand for secretaries and administrative assistants who are adaptable and versatile. Secretaries and administrative assistants may have to attend classes to learn how to operate new office technologies, such as information storage systems, scanners, the Internet, or new updated software packages, or utilize online education.

Secretaries and administrative assistants acquire skills in various ways. Training ranges from high school vocational education programs that teach office skills and keyboarding to 1- and 2-year programs in office administration offered by business schools, vocational-technical institutes, and community colleges. Many temporary placement agencies also provide formal training in computer and office skills. Many skills are often acquired, however, through on-the-job instruction by other employees or by equipment and software vendors. Specialized training programs are available for students planning to become medical or legal secretaries or administrative technology specialists. Bachelor's degrees and professional certifications are becoming increasingly important as business continues to become more global.

Testing and certification for entry-level office skills is available through the International Association of Administrative Professionals and NALS, the association for legal professionals. As secretaries and administrative assistants gain experience, they can earn the Certified Professional Secretary (CPS) designation or the Certified Administrative Professional (CAP) designation by meeting certain experience and/or educational requirements and passing an examination. Similarly, those with one year's experience in the legal field or who have concluded an approved training course and who want to be certified as a legal support professional can acquire the basic designation of Accredited Legal Secretary (ALS) by a testing process administered by NALS. NALS also offers an examination to confer the designation of Professional Legal Secretary (PLS), an advanced certification for legal support professionals. Legal Secretaries International confers the Certified Legal Secretary Specialist (CLSS) designation in specialized areas such as civil trial, real estate, probate, and business law, to those who have 5 years of law-related experience and pass an examination. In some instances, waivers of certain requirements may be available.

Secretaries generally advance by being promoted to other administrative positions with more responsibilities. Qualified secretaries who broaden their knowledge of a company's operations and enhance their skills may be promoted to other positions such as senior or executive secretary, clerical supervisor, or office manager.

Secretaries with word processing or data entry experience can advance to jobs as word processing or data entry trainers, supervisors, or managers within their own firms or in a secretarial, word processing or data entry service bureau. Secretarial experience can also lead to jobs such as instructor or sales representative with manufacturers of software or computer equipment. With additional training, many legal secretaries become paralegals.

### Job Outlook

Overall, employment of secretaries and administrative assistants is expected to grow more slowly than the average for all occupations over the 2000-10 period. In addition to openings due to growth, numerous job openings will result from the need to replace workers who transfer to other occupations or leave this very large occupation for other reasons each year. Opportunities should be best for well-qualified and experienced secretaries.

Projected employment of secretaries will vary by occupational specialty. Employment growth in the health and legal services industries should lead to average growth for medical and legal secretaries. Employment of executive secretaries and administrative assistants also is projected to grow about as fast as the average for all occupations. Fast growing industries—such as personnel supply, computer and data processing services, health and legal services education, and engineering and management—will continue to generate most new job opportunities. A decline in employment is expected for all other secretaries except legal, medical, or executive. They account for almost half of all secretaries and administrative assistants.

Growing levels of office automation and organizational restructuring will continue to make secretaries and administrative assistants more productive in coming years. Personal computers, electronic mail, scanners, and voice message systems will allow secretaries to accomplish more in the same amount of time. The use of automated equipment is also changing the distribution of work in many offices. In some cases, such traditional secretarial duties as keyboarding, filing, photocopying, and bookkeeping are being assigned to workers in other units or departments. Professionals and managers increasingly do their own word processing and data entry; and handle much of their own correspondence rather than submit the work to secretaries and other support staff. Also, in some law offices and physicians' offices, paralegals and medical assistants are assuming some tasks formerly done by secretaries. As other workers assume more of these duties, there is a trend in many offices for professionals and managers to "share" secretaries and administrative assistants. The traditional arrangement of one secretary per manager is becoming less prevalent; instead, secretaries and administrative assistants increasingly support systems, departments, or units. This approach often means secretaries and administrative assistants assume added responsibilities and are seen as valuable members of a team, but it also contributes to the decline in employment projected for overall numbers of secretaries and administrative assistants.

Developments in office technology are certain to continue, and they will bring about further changes in the secretary's and administrative assistant's work environment. However, many secretarial and administrative duties are of a personal, interactive nature and, therefore, not easily automated. Responsibilities such as planning conferences, working with clients, and transmitting staff instructions require tact and communication skills. Because technology cannot substitute for these personal skills, secretaries and administrative assistants will continue to play a key role in most organizations.

### Earnings

Median annual earnings of executive secretaries and administrative assistants were \$31,090 in 2000. The middle 50 percent earned

between \$24,970 and \$38,370 in 2000. The lowest 10 percent earned less than \$20,350, and the highest 10 percent earned more than \$46,250. Median annual earnings in the industries employing the largest numbers of executive secretaries and administrative assistants in 2000, were:

Computer and data processing services .....	\$33,720
Local government .....	32,100
Elementary and secondary schools .....	30,470
Colleges and universities .....	29,710
Personnel supply services .....	28,020

Median annual earnings of legal secretaries, were \$34,740 in 2000. The middle 50 percent earned between \$27,650 and \$42,510. The lowest 10 percent earned less than \$22,440, and the highest 10 percent earned more than \$50,970. Medical secretaries earned a median annual salary of \$23,430 in 2000. The middle 50 percent earned between \$19,530 and \$28,120. The lowest 10 percent earned less than \$16,510, and the highest 10 percent earned more than \$34,510. Median annual earnings of all other secretaries, excluding legal, medical, and executive secretaries, were about \$23,870 in 2000.

Salaries vary a great deal, however, reflecting differences in skill, experience, and level of responsibility. Salaries also vary in different parts of the country; earnings are usually lowest in southern cities, and highest in northern and western cities. In addition, salaries vary by industry; salaries of secretaries tend to be highest in transportation, legal services, and public utilities, and lowest in retail trade and finance, insurance, and real estate. Certification in this field usually is rewarded by a higher salary.

The starting salary for inexperienced secretaries in the Federal Government was \$17,474 a year in 2001. Beginning salaries were slightly higher in selected areas where the prevailing local pay level was higher. All secretaries employed by the Federal Government averaged about \$33,354 a year in early 2001.

### Related Occupations

A number of other workers type, record information, and process paperwork. Among them are bookkeeping, accounting, and auditing clerks; receptionists and information clerks; court reporters; human resources assistants, except payroll and timekeeping; computer operators; data entry and information processing workers; paralegals and legal assistants; medical assistants; and medical records and health information technicians. A growing number of secretaries share in managerial and human resource responsibilities. Occupations requiring these skills include office and administrative support supervisors and managers, computer and information systems managers, administrative services managers, and human resources, training, and labor relations managers and specialists.

### Sources of Additional Information

State employment offices provide information about job openings for secretaries. For information on the Certified Professional Secretary designation or the Certified Administrative Professional designation, contact:

► International Association of Administrative Professionals, 10502 NW Ambassador Dr., P.O. Box 20404, Kansas City, MO 64195-0404. Internet: <http://www.iaap-hq.org>

Information on the Certified Legal Secretary Specialist designation can be obtained from:

► Legal Secretaries International Inc., 8902 Sunnywood Dr., Houston, TX 77088-3729. Internet: <http://www.legalsecretaries.org>

Information on the Accredited Legal Secretary (ALS) and the Professional Legal Secretary (PLS) certifications is available from:

► NALS, Inc., 314 East 3rd St., Suite 210, Tulsa, OK 74120. Internet: <http://www.nals.org>